THE VETERINARY JOURNAL
AND
Annals of Comparative Pathology.

FEBRUARY, 1881.

SCARLATINA ANGINOSA.

BY J. RITCHIE, M.R.C.V.S., KILCALDRUM, FORFAR.

SCARLATINA in the horse is, in my experience, a disease seldom seen. I have met with cases following Purpura that had symptoms much like Scarlet Fever in many respects, but to my mind a case pure and simple is not often met with.

On the 17th November, 1879, at eight o'clock p.m., I was requested to see a six-year-old, bay, cart gelding said to be unwell; after examining the animal I confess I was at a loss to understand the symptoms. The horse was off feed, very stiff all over, could scarcely move out of the stall; with a delirious look about the eye, shivering, hair standing erect, and a peculiar eruption on the skin on various parts of the body, which could be felt when passing the hand over its surface. Pulse full, soft, and numbering 50. I did not take the temperature. I was inclined to the opinion that it would turn out a case of Lymphangitis, or Urticaria, but could not decide in my own mind as to the nature of the complaint. However, I gave an aloetic dose in bolus, and had the animal well covered up before I left for the night.

18*th*.—Early this morning a messenger called to say that the horse was "choking for breath." I now concluded that the suppressed action of the skin the night before was a precursor of Laryngitis, so I ordered fomentation constantly to the throat, and steaming the nostrils with hot water; but these gave no relief to the urgent symptoms. I therefore visited my patient about one o'clock p.m., and found him scarcely able to stand,

and perspiring terribly. I therefore performed tracheotomy at once, which had the desired effect in relieving the difficult breathing. The bowels by this time were responding rather too freely to the cathartic I gave the previous night, and which, to my mind, was not a very favourable state of affairs. The eruption on the skin was more general and distinct; there was a very painful swelling on the inner aspect of the right thigh, and another on the inner side of the right forearm, and a large, painful lump in the submaxillary space, with scarlet spots on the Schneiderian membrane, and also on the membrane of the mouth—in fact, the tongue was completely covered with spots and blotches, some as large as a hen's egg. I entertained no doubts as to the nature of my case by this time, so had the animal removed from the stable to a roomy loose box, and got him to take ʒiij. of chlorate of potash in drinking water. After he became a little tranquil, I found his pulse was very weak and about 80; temperature 104°; breathing a little hurried; the eye still having a wild-looking appearance, and the pupils dilated. I ordered the painful swellings to be fomented three times daily, also ʒij. chlorate of potash in drinking water every six hours.

19*th.*—Horse much the same as yesterday, except coughing a little for the first time, and a dirty discharge from the right nostril. Continue fomentations to swellings, as it affords much ease to the patient, and give medicine as before.

20*th.*—Has taken a mash during the past night, of bran and linseed. Swellings extending down the legs; another lump has appeared on the inside of left thigh; drinking much water; urine very thick and nearly black; pulse 75, and feels more natural; temperature 103°; bowels becoming constipated. Gave warm water injections to unload the rectum.

21*st.*—Decided improvement to all appearance to-day. Still there is much thirst; the appetite is fast improving; pulse more full and soft, numbering 55, and temperature 102°. Gave sodæ hyposulphite in ʒj. doses three times a day in boiled food. The large blotches on the tongue have almost disappeared, also the swelling under the jaws; but the swellings on the legs are increasing, and the animal is still very stiff and unable to lie down.

22*nd.*—Horse is improving rapidly. Sponge the swellings with

cold water and acetic acid, as they are almost free from pain. Continue the doses of soda in mashes.

23rd.—Swellings are disappearing, also the eruption on the skin and the spots on the nasal membrane. Pulse 45, full, soft, and in my opinion natural; temperature 101°. The animal looks in good health.

24th.—Had tracheotomy tube removed, and wound stitched up; breathes quite freely, and moved round the box for the first time. Gave cinchona, soda, and nux vomica as a tonic night and morning for a week.

December 1st.—Visited and found my patient to all appearance in perfect health. The swellings, spots, and blotches had entirely disappeared, and there only remained a dirty, scurfy skin, with desquamation of the cuticle taking place in a form not unlike that of Scarlet Fever in the human subject.

This being an interesting case to me, I send it for insertion in your valuable Journal, should you deem it worthy of a corner. But I may further remark that the said animal, on the night of the 15th April, 1880, had a very severe attack of what I might term Laryngismus Stridulus. So serious was it, I had but very little time to go a quarter of a mile to save his life by opening the trachea, which gave immediate relief. The horse was kept at work a few days with the tube, when it was removed, and the wound allowed to heal up. On the 16th May he had another similar attack, which I also relieved by opening the trachea, and again allowed the tube to remain in the tracheal opening for a few days, when he appeared to be in perfect health, and the wound in the neck was allowed to heal up. He subsequently had on one or two occasions slight attacks, but as the tracheal wound was not perfectly closed they soon passed off. I had the horse under my observation up to the end of September, when he was sold; I then lost sight of him.

Whether the illness on the 17th November had any connection with the other attacks, I am at a loss to explain.

SUNSTROKE IN ELEPHANTS.

BY J. A. NUNN, M.R.C.V.S., ROYAL ARTILLERY, RAWAL PINDEE, INDIA.

I SEND an account of two cases of sunstroke in elephants, which came under my observation. Ten elephants, for the purpose of carrying the guns on their backs in places where they could not be dragged by the horses, had been attached to my battery, C3 R.A., during the late Afghan campaign. During the spring and early part of the summer there had been the greatest difficulty in feeding them, and when they marched to India, on the evacuation of Northern Afghanistan, they were in very poor condition. On August 18th, at about 9.30 a.m., after marching into the fort of Dakha, I was informed that one of them had fallen down on the bank of the river, where it had been taken to drink. The animal, a female—said to be eighty years old—had been falling off in condition for some time; and as on the evening before she had refused her feed, she was excused carrying any load beyond her mahout. When I saw her, about ten minutes afterwards, she had got up and was staggering along with an uncertain gait; but after proceeding about 300 yards she fell once more down, and never got up again. At the same time, another younger elephant—about seventeen years old—fell down in the river in exactly the same way. This animal soon recovered its feet, and I had it removed to the shade of a rock close by the river-bank. The first elephant seemed quite comatose, the pupil of the eye being dilated and fixed. The second elephant appeared to be stupid, but she obeyed her mahout after he had repeated his order once or twice. In the older animal the symptoms were most marked. The breathing was stertorous, amounting to a loud roaring sound, and as she lay on the ground, the air was expired with force sufficient to blow away some of the sand. The pulse, which can be taken at one of the large arteries behind the ear, was almost imperceptible; and a noticeable symptom was, the enormous quantity of urine that was passed at short intervals of ten minutes or so. I had both their heads and backs along the spine covered with "jhools" (horse-blankets made out of several thicknesses

of felt sewn together), and saturated with water. I also gave the younger animal about three gallons of proof rum, by kneading up a quantity of the large cakes of bread elephants are fed on, with the spirit, and forcing it down her throat. I tried to give the same dose to the older elephant, but she could not swallow. Her case appeared hopeless from the beginning, and she had to be left behind on the battery marching the next morning; I subsequently heard that she died that evening. The younger animal gradually recovered, and marched through the Khyber to Peshawur, apparently none the worse. The heat at this season of the year was very great. I unfortunately broke the only thermometer I had; but the day before, at 5 o'clock in the evening, in the shade it stood at 110 degrees Fahr. The situation was also most unfavourable. Dakha is situated on the banks of the Kabul river, in a sandy plain, surrounded by hills about three miles across. The sun beats down with most intense force, and no wind can get into this basin.

SHEEP-POISONING BY RHODODENDRON.

BY J. DUNLOP, M.R.C.V.S., DOWNPATRICK.

ON Thursday, December 23rd last, a hundred breeding ewes were put to graze in Tullymon Park, co. Down, the residence of Lord Roden. These animals had been purchased in October last, at Falkirk Tryst, and had been grazing on the home farm, outside the walls of the demesne. On Friday morning, the 24th, one of them appeared ill—breathing fast, frothing at the mouth; attempts to vomit, during the paroxysms of which the animal emitted a crying sound. It died that evening. Others appeared ill, one dying on Saturday, the 25th, and another on Sunday, the 26th. Fifteen in all were ill; three died, and twelve recovered slowly.

On Monday, the 27th, I was requested to make a *post-mortem* examination, and found large quantities of rhododendron leaves and grass half masticated in the rumen. There was a general fulness of the vascular system, congestion of lungs, and blood clots in both sides of the heart.

No yew-trees were within reach of the sheep, which were then removed from the park, and no other cases occurred.

They were the first cases of poisoning from rhododendron that I have been called to attend, and I thought a report of them might be interesting to the readers of the Journal.

THE HORSE-SICKNESS OF SOUTH AFRICA.

BY M. F. HEALY, M.R.C.V.S., ARMY VETERINARY DEPARTMENT, IPSWICH.

IN the November number of the VETERINARY JOURNAL, three cases are recorded by veterinary-surgeon Killick as those of the Horse-sickness of Zululand.

With all due deference to Mr. Killick (whose acquaintance with Zululand was rather limited), I do not think any of his horses were affected with "Horse-sickness." His description, I fear, would give our colleagues at home an erroneous impression as to its fearful mortality.

Before I went to Zululand, I heard a good deal about this so-called "Horse-sickness," but little fancied it was so fatal. I was in charge of the coast column, and had ample opportunities of seeing many cases. When at the "Tugela" I must have lost over sixty horses. My experience tells me that fifteen minutes from *apparent health* to death was the average duration of an attack. I have seen a horse feeding, and apparently quite well, and dead in seven minutes; and I have also seen one live twenty-five minutes, but these were exceptional cases.

"From memory I will give the symptoms." An animal is apparently quite well, suddenly he is observed to be uneasy; the breathing becomes quicker, and then he begins to "blow" and heaves at the flanks. Drops of perspiration run off the flanks and neck; the eyes are wild and staring. Sometimes the animal purges, but nearly in all cases he voids urine and fæces. Then he gives a few convulsive struggles, and all is over—the animal drops dead. The symptoms or different stages run so rapidly into each other, that there is no time for examination. For fully ten minutes *after death*, froth, highly tinged with blood, pours from both nostrils.

A few minutes after being attacked, the patient presents the same appearance as a horse does after a sharp and severe gallop —hot, restless, and continually shifting its position.

I never heard of an affected animal living for days, and should like to have other opinions on the subject.

I had some cases like Mr. Killick's No. 2 case, but thought my horses were overdone, they being in poor condition and hard worked. I also had a number of cases similar to his No. 3 case, which were constipation or obstruction and irritation of the intestines from an accumulation of sand. Aged English horses would not remain at grass like the colonial horses, so they generally stood in the lines during the day, and licked up sand. My supply of medicine was limited, and the cases, especially at Port Durnford, were so numerous that I was obliged to try something more plentiful than my aloes.

On the passage to the Cape, one of our officers suffered from constipation and its accompanying disturbance, and although he came provided with boxes of pills, which he religiously swallowed night and morning, yet they had but little effect. The captain of the ship strongly recommended a tumbler full of sea-water, which was taken, and it had a marvellous effect and gave quite a new life to the man.

Well, remembering this, and being close to the sea, I drenched my patients with sea-water, and had an equally satisfactory result. One horse died during my absence on night duty. On my return I made a *post-mortem* examination, and could scarcely believe any animal could walk about with such a load of sand. The large intestines were simply crammed full. This animal, I was told, worked all day, apparently well.

ON THE RELATIONSHIP BETWEEN TUBERCULOSIS AND BURSATTI.

BY RICHARD W. BURKE, STUDENT, ROYAL (DICK'S) VETERINARY COLLEGE, EDINBURGH.

THE belief of the "intimate" relationship existing between Tuberculosis and Bursatti having become so universally diffused, it behoves me to revert to my previous remarks at a little greater

length. I will, therefore, briefly contrast the two diseases, and show how very materially they differ, not only in their nature and general characteristics, but also in their physical properties and general *post-mortem* appearances, and that they are totally distinct diseases, and in no way related to each other :—

(*a*) Tuberculosis is seldom seen in the *horse* (Gerlach).

(*a*) Bursatti is *common* in the horse.

(*b*) Tuberculosis is infectious ; and this is now proved. Dogs, though rarely the subject of spontaneous Tuberculosis, have been experimented on, by being made to breathe for several hours daily in a chamber, in the air of which fine particles of phthisical sputum were suspended ; the experiments were successful. Microscopical examination being in accord with the naked-eye appearances.*

At a recent Association meeting at London,† Dr. C. Williams remarked that "he had acquired an immense deal of information from Mr. Fleming's valuable paper on the subject of Tuberculosis." He believed that "Mr. Fleming had *proved* his point, that the disease was communicable by contagion and infection." . . . . "In the human being also, Tuberculosis was certainly contagious."

In the VETERINARY JOURNAL for August, 1880, Mr. Fleming writes :—"As to the inoculability of the disease, there are now hundreds of positive experiments to prove it. It has been shown in an undeniable manner that, like Glanders, Tuberculosis can be produced in healthy animals by inoculating them with tuberculous matter from man or other creatures. Only in recent days Villimin commenced a series of experiments, continued by a host of other pathologists, human and veterinary, which show in the clearest manner that the disease is inoculable from man to animals, and from animals to animals—is, in fact, a true inoculable disease. Transmission can be effected not only by the tuberculous matter, but also by the bronchial secretion and the blood, the same as the most characteristic virulent maladies, such as Glanders."

Amongst other contributions which go to prove the propagation of the disease by infection, are those by Klebs, Schuller,

* *The Lancet.* † VETERINARY JOURNAL, March, 1880.

Simon, Greenfield, and Thompson; the contagion of the disease being also frequently spread by the milk of cows, which are extremely susceptible to the virus of Tuberculosis.

Even so far back as the times of Dr.—afterwards Sir—Charles Scudamore,* the inoculability of the disease was well recognised; and according to his writings, we understand that such was not a mere matter of opinion, but a fact capable of experimental demonstration. Repeated experiments upon dogs were made. These were inoculated with the contents of tubercular cavities, and with success in the transmission of the disease, for the animals sickened for some days, in each instance, with fever, loss of appetite, etc.; the seat of inoculation itself being much inflamed.† Pus from common abscesses was injected into the veins without the slightest inconvenience accruing.

Again, from the pen of Dr. Cullimore,‡ of India, we are also informed that the canine tribe enjoys no comparative immunity from the development of Tuberculosis, the lung of the dog being rapidly susceptible to the influence of the *materies morbi* of tubercular lung disease, even when introduced into the system *via* the stomach, which, according to Von Cohnheim, is the slowest and least effectual mode of introduction.

(*b*) Bursatti is neither infectious nor inoculable. All experiments have failed to transmit the disease to a healthy animal; neither the secretions or the blood of an animal suffering from the disease, nor the discharges from the sores being capable of producing the disease, even when directly introduced into the veins. And the wound at the seat of inoculation always comports itself as an ordinary wound.

(*c*) The lymphatics, and very frequently the lungs, are the *first* affected in Tuberculosis; and *suppuration* is a common accompaniment of it.

"The enlargement of the lymphatic glands is of such frequent occurrence, and is usually so early a sign, that the surgeon, in determining whether an individual is scrofulous or not, commonly

* 1825.

† The lesions evinced *post-mortem* were conclusive of the success of the inoculation.

‡ *British Medical Journal*, 22nd May, 1880.

passes his hand over the glands in order to ascertain their condition and size" (Erichsen).

(*c*) In Bursatti, the lymphatics and the lungs are not involved until the disease has existed a considerable time externally and run a great part of its course. *Suppuration* never results, either in the case of the glands or in the internal organs, this being a peculiar and most noteworthy feature of the disease.

(*d*) Weakness predisposes the system to Tuberculosis. When the disease is once fully established, it usually brings about a speedy termination: emaciation commences and goes on rapidly.

(*d*) Bursatti is seen in the most vigorous,* as a rule, and is not peculiar to the weak constitution—the health only suffering subsequent to the appearance of the local sores. Even when fully established in the system, it usually runs a prolonged and insidious course, modifying and repeating itself, as a rule, periodically, until at last it may cause death by exhaustion (Asthenia). Practically, death, occurring as a direct result of Bursatti, is so rare, that neither in the literature of the subject nor in the experience of any, so far as I know, has such a case been recorded, although I cannot say that a few such cases, not having come under notice, did not escape record.†

(*e*) The presence of tubercular disease of the lungs is indicated by rapid and acute degenerative changes in the intervening lung-tissue, and by the formation of abscesses, vomicæ, etc. It is seldom that we meet with any extensive diffusion of tubercular deposits through the lungs without evidence of more or less acute inflammation and its sequelæ.

(*e*) In Bursatti we never notice inflammatory complications leading to abscesses, vomicæ, etc.; the patches of induration ("fibroid substitution") produced by the lodgment of absorbed

* Consult also "human" surgeons of Cancer hospitals, and the first thing we learn is this same character. Beale informs us that Dr. Moore was the first who made known this clinical observation determined in the history of Cancer; and in the writings of modern surgeons it receives primary mention in the semeiology of the disease.

† I have since learned that a few deaths have been recorded in cases of Bursatti. Mr. Spooner Hart, of Calcutta, I understand, has also noted a few such cases and given them publication in the *Veterinarian*. All the subjects of the disease witnessed by me have been slaughtered or shot on the immediate development of the Bursatti-cachexia.

products from the local sores are with difficulty revealed even in the advanced cases, except on careful auscultation.

(*f*) Tuberculosis is accompanied by a slight expectoration of a glairy character, sometimes copious, and containing tubercular matter, pus, lung *débris*, etc.; and even in its early stages there may be hæmoptysis.

(*f*) In Bursatti the cough is unattended by expectoration (*per nares*); and not until the coats of the arteries give way can hæmorrhage take place. Indeed, practically, we never see hæmorrhage in a case of Bursatti in any of its stages.

(*g*) The pyrexial form of Phthisis is characterised by the evening exacerbation of temperature, due to resorption of the softened material (Charcot).

(*g*) In Bursatti there is no deviation in the temperature from the normal, throughout the course of the disease; if any, it is to be noticed in its later stages, when exhaustion has supervened.

(*h*) A fresh impetus is frequently given to the progress of the disease (Phthisis) by exposure to depressing or adverse influences, such as cold, cold and wet, or cold and heat suddenly alternating.

(*h*) In Bursatti the patient usually resists (as much as *healthy* animals) all such adverse influences, and is, as a rule, capable of sustaining the most severe and trying conditions. It is a common thing for "ekka" ponies suffering from Bursatti tumours (fungoid) about the *fetlocks* and *pasterns*, to run a dâk of fourteen miles to and fro three times in the twenty-four hours, in the most trying seasons—seasons alternated with heat, wet, and cold. Such treatment as this, I should imagine, would soon bring about an unhappy termination in the case of a "consumptive"!

(*j*) Tuberculosis is attended in its later stages by a state of *hectic fever*, resulting from the severe drain on the system caused by the excessive suppurative changes.

(*j*) Bursatti, even in its advanced stages, usually shows no marked febrile disturbance of the circulation.

(*k*) In Tuberculosis the tubercular matter shows no tendency to organisation, and leads rather to rapid degeneration and dissolution of the surrounding healthy structures. Thus it is that it commonly occasions the development of abscesses, the pus of which is characterised by being curdy and shreddy.

(*k*) Bursatti deposits (kunkurs), like tubercle, may permeate all the tissues of an organ; but as a rule they maintain the character of *isolated lumps*,* causing pressure on the sub, supra, and adjacent textures, without implicating or degenerating them —the surrounding structures being pushed aside and compressed.† The deposits tend primarily rather to increase (peripherally) in their own dimensions, and their destructive process is comparatively slow and passive in character. It is very rare for Bursatti deposits in the lungs to soften, and break down so as to induce cavities; and the latter, I conceive, result only under two conditions, viz.—(*a*) *When proliferation of the cancer-cells is unusually active;* (*b*) *When the formative process of cancer-structure is in advance of the degencrative—when increase in the circumference of the cancerous nodules is unarrested by delay in calcareous deposition* ‡

Kunker nodules are in many places contained in distinct oval or round and smooth cavities formed in the structure of the organs, which, in the case of the lungs, present the appearance of "dilated bronchi" (?) when emptied. Usually they are continuous with and inseparable from the texture of the organ.

(*l*) The nodules—*tubercles*—in Tuberculosis possess the character of aggregating themselves, as a rule, into groups somewhat resembling bunches of grapes (racemose; and this is a very characteristic feature of the disease, even more so than of Glanders.

(*l*) The kunkurs in Bursatti, though aggregated in *lumps*, do not possess any such definite arrangement.

(*m*) And, lastly, Bursatti and Tuberculosis differ in their microscopic features.

* The "*isolated lumps of Cancer*" of "human" surgeons.

† As in Lymphadenoma. It is to be here noted that Cancer (Bursatti) and Lymphadenoma are in many features closely allied to each other, but most particularly in this point.—R. W. B.

‡ Under the same conditions also cavities are noticed in Lymphadenoma of the kidney, spleen, etc.; when the opaque milk-white nodules of Lymphadenoma in rare instances remain unchecked in their growth from want of timeous deposition in them of calcareous matter. (In but few cases is calcareous deposition of lymphadenomatous structure also seen.) The calcareous deposition in these cases must be looked upon as a *natural* process, a struggle of nature to overcome *destruction*, by circumscribing disease growth.—R. W. B.

PHARMACEUTICAL NOTES.

BY R. PATERSON, M.R.C.V.S., DOWNHAM, NORFOLK.

Liquor Chloroformi Compositus (Chlorodyne).

NO one can doubt that the addition to our pharmacy of agents which have been found beneficial in the treatment of diseases incidental to mankind, are not unfrequently equally valuable when applied to the domestic animals. The fame that chlorodyne has of late years gained in the treatment of affections of the air-passages, chest, and abdominal organs of human patients has induced several prominent members of our profession to give it a somewhat extensive trial, and, as far as my own personal observation has gone, with very gratifying results. Although not a great advocate for the adoption of new remedies in the place of old and generally recognised ones, still I think the test that chlorodyne has stood as a remedial agent places it beyond all doubt of its claims in being admitted to our pharmacopæias. The omission in the lately issued edition of Professor Tuson's work, makes me trust that a form for the preparation of this popular remedy may not be out of place in the pages of your valuable Journal.

For notes as to its administration, etc., I will refer your readers to a paper in the VETERINARY JOURNAL, vol. v., page 313:—Chloroform Methyd., 4 oz.; Sulphuric Ether, 1 oz.; Spirits of Wine, 4 oz.; Tincture of Indian Hemp, 5 drams; Treacle, 4 oz.; Extract of Liquorice, 2½ oz.; Muriate of Morphia, 8 grs.; Oil of Peppermint, 16 mins.; simple syrup, 17½ oz.; * Prussic Acid (two per cent.) 2 oz.†

Dissolve the muriate of morphia and oil of peppermint in the spirit; mix the chloroform, ether, and tincture of indian hemp with this solution; dissolve the extract of liquorice in the syrup and add the treacle. Shake well these two solutions together (removing the stopper occasionally), then add the prussic acid, and mix.

* Made by dissolving, by the aid of heat, six parts of refined sugar in three of water.

† Scheele's prussic acid contains from four to five per cent.

Editorial.

THE PROPOSED VETERINARY CONGRESS.

THE proposal to hold a Veterinary Congress in London this year, must commend itself to our colleagues for more than one reason. An attempt was once made to elicit the opinions of veterinary surgeons in these kingdoms on several important matters, some years ago, by a congress; but the petty jealousies which then prevailed, the disunited state of the profession, and the general lack of professional spirit which has until recently been only too manifest, rendered the attempt, if not a failure, at least without result. Since that time the complexion of affairs has considerably altered, and there has been something like a new spirit infused into our body. True, there is yet much to be done and to be overcome before the more enthusiastic and energetic among our number will be content and cry halt; but, nevertheless, there is no reason why a gathering such as that proposed in the last number of the Journal should not take place, in order to take soundings as to our position, and to bring the full weight of professional opinion to bear on questions of direct vital importance to ourselves, and more or less direct importance to the public also. It is well-nigh time that we should follow the example of other professional bodies, and not only exchange views and discuss problems which more immediately concern our future progress, but also make known the results of our deliberations to the general public, who cannot be indifferent to the opinions we hold on sanitary and other serious questions affecting the health and wealth of the community.

It might safely be predicted that, provided the business of the Congress is properly managed, and the subjects introduced for discussion are sufficiently interesting and not too numerous, it will prove a success. We are now a united body from one end of the land to the other, and already efforts have been made, and with a fair amount of success, to attract attention to our utility, and to our aims and aspirations. A Veterinary Congress in London this year, which is also to witness an international medical congress, should be productive of beneficial results, and bring together from every quarter of the three kingdoms, those who are ready and willing to show by their presence and their voice that they are loyal to the cause of professional progress.

THE CONTAGIOUSNESS OF GLANDERS.

GLANDERS is now so prevalent throughout the country, and exists to such an alarming extent in London, that any additional evidence we can obtain as to the manner in which it is propagated must be of value. It is not, perhaps, going beyond the mark to assert that not one-half of the cases of this horrible and fatal disorder are reported to the Government; nor is it the less true that proper sanitary measures are very seldom adopted for its suppression. And it is greatly to be feared that the malady is mistaken for other diseased conditions, especially Pyæmia, and that sick animals are allowed to live for

weeks or months among others, to the great danger of not only these, but their human attendants. It has long been known that Glanders is an inoculable disease, and that it could also be produced by transfusing blood from a diseased to a healthy horse or ass, as well as by introducing the virus contained in the nasal discharge into the stomach. It is possible that all the secretions and excretions are more or less infective, the peculiar mucopurulent fluid thrown off by the Schneiderian membrane probably being most active. This discharge has been blamed as rendering the public watering-troughs a source of danger, the fluid passing into the water when glandered horses are allowed to quench their thirst at these valuable conveniences. It has been objected to this notion, that the discharge being heavier than water, falls to the bottom of the trough, and not being readily diffusible, is not likely to be swallowed by other horses watered there. This argument had a certain amount of plausibility, and the friends of the public water-trough movement availed themselves of it when the troughs were accused of being largely instrumental in disseminating the disease.

From a note presented to the Académie des Sciences by Professor Galtier, of the Lyons Veterinary School, it appears that he has been successful in transmitting the disease to an ass, by the hypodermic injection of saliva from a glandered horse. We know that the virulent germs find admission not only through a wound or abrasion, or a thin mucous membrane, such as the conjunctiva, but also by the digestive organs. Saliva readily mixes with water, and those who have watched horses drinking will have remarked that some of the water taken into the mouth escapes by the commissures of the lips, and falls back into the trough or bucket; and when drinking has been completed, a certain quantity which has not been swallowed is also returned; so that a glandered horse may largely contaminate the water in a trough with his saliva. Not only this, but when horses drink greedily, it often happens that a portion of the water is returned through the nostrils; so that the nasal, as well as the salivary secretion, may find its way into the mass of water which healthy horses subsequently swallow.

Galtier's experiments also go to show that the Glander virus loses its activity when the matters which contain it, whether liquids or tissues, have been completely desiccated for fifteen days. Thorough ventilation of buildings which have been tenanted by glandered horses is, therefore, a very effective means of purifying them.

The diagnosis of Glanders is sometimes very difficult, if not impossible, without having recourse to test inoculation; and the animal usually inoculated is the ass, that creature being not only less costly for this purpose, but also more easily infected than the equine species. It is still costly, however, and being large and somewhat expensive to keep during the experiment, other more convenient animals have been proposed for substitution. The rabbit is one of these, but, as M. Colin has shown in the experiments which we described a fortnight ago, it cannot be relied upon as a test animal.—*Lancet.*

SHEEP-ROT.*

BY GEORGE FLEMING, F.R.C.V.S., ARMY VETERINARY INSPECTOR.

THOUGH this paper is headed "Sheep-rot," yet I think the designation objectionable, and only give it because perhaps by any other name the malady would not be so well known to those for whom I have penned the following remarks on it. Long ago, the domesticated animals were said by those who

* From the *Live Stock Journal Almanac* for 1881.

pretended to know something of their disorders to have various kinds of rots; and among shepherds "Rot" was a very popular term for several widely different diseases, and was no doubt in those days convenient for covering gross ignorance. So it was that we had *the* "Rot," or "Great Rot," "Hydropic Rot," "Pelt Rot," "Hunger Rot," "Glanderous Rot," "Blood Rot," and other kinds of Rot. Those terms are meaningless, or at least inexpressive, and should be discarded in these days of more advanced general, agricultural, and medical teaching. Indeed, except in some out-of-the-way districts, or among men who are beyond the reach of better knowledge, the great majority of the "rots" are obsolete, and the term is only applied to one disease of sheep—that occasioned by the presence of flukes in the liver; and even among those who dislike the word, or prefer something more explicit, the presence of the worms has been invoked to designate the affection as the "Fluke Disease." Among zoologists and veterinarians the worm is known as the *Distoma hepaticum* (from the Greek δὶς, *double*, and στόμα, *mouth*, and ἧπαρ, the *liver*), because it has two sucker-discs—one at each end of the body—for attaching itself to objects, and infests the bile canals in the liver. Scientific men have given different technical names to the disease, but these are generally objectionable, either from their length, their inaptness, extreme novelty, or other cause. Perhaps the best designation would be "Distomatosis," *i.e.*, the disease produced by the Distoma—just as we apply the term "Trichinosis" to the serious disorder produced by eating pigs' flesh infested by the extremely minute hair-like worms known as *Trichinæ*. In different districts the disease is known by various local popular names, but they do not indicate its nature.

Fluke Disease.

This Fluke Disease, or Distomatosis, is probably coeval with the pasturage of ruminants on wet lands. At any rate, from the earliest period when history begins to record disasters among these animals, we find indications of this particular malady existing among them; and when we reach more recent times, its ravages in certain years, under certain conditions, arrest the attention, and give one the impression that of all the destructive visitations to which sheep are liable, this is perhaps the most serious. Not that sheep alone are affected—all ruminating creatures exposed to the same exciting causes may become *distomatosed;* and other creatures, even man himself, have been known to harbour these troublesome tenants.

The disease is known in pretty well every land where there are wet pastures and marshes; and the destruction it works is at times quite appalling. The years 1879-80 will long be remembered in this country as a most disastrous period for flock-masters and farmers who grazed sheep; and if their misfortunes have been heavy, those of their *confrères* on the Continent of Europe have been no less so. Indeed, to this disease alone is attributed the notable diminution that has taken place lately in the number of sheep throughout nearly the whole of Europe. It would appear from the reports published during this period that the losses in France, Upper Italy, Poland, certain parts of Austria, as well as Germany, have not been much less than those experienced by this country. For Alsace-Lorraine it is asserted that ninety per cent. of the sheep sent to the *abattoirs* of Metz, Forbach, Sarrebourg, Haguenau, Strasbourg, Schlestadt, Colmar, and Mulhouse, were affected, and in some districts there were only a few sheep where previously there had been extensive flocks.

Ravages of the Disease in Germany.

For the last two or three years, the money loss occasioned by this plague of sheep in this part of Germany has been estimated at two millions of francs.

The low-lying, marshy regions of France are seriously visited by the disease at times. It has been estimated that 100,000 sheep perished from 1810 to 1812 in the Bouches-du-Rhône department; 90,000 during the same period in the Hérault department; 7,000 cattle, and 45,000 sheep in 1829-30 in the arrondissements of Verdun and Montmédy. In 1853-54, Berry, Gatinais, and Sologne—so rich in flocks—lost nearly one-half; and in 1878-79, nearly all the flocks in the departments of the Rhône, Ain, and Isère were destroyed. These losses, which do not appear to be known in this country, might reconcile us somewhat to the grave damage we have sustained in England during 1879-80, and earlier years. Indeed few countries have been more severely visited by this disease than Great Britain and Ireland for several centuries, owing to the moisture which prevails at different times, and the great extent of tainted pasture-land.

Contrary to the opinion which has been recently promulgated, the cause of the disease has been known for certain for nearly three centuries and a half, and the presence of the worm ascertained in the outbreaks which were then so common. The earliest mention of this fact which I can at this moment remember, is that by Gentilis Arnulphus, who wrote in 1542. A century later, Froman, in a paper entitled "Observ. de Verminoso in Ovibus et Juvencis invento hepate" (published in the *Miscellan. Natur. Curios.*, 1675), describes a most deplorable mortality among, not only sheep, but other animals—wild and domestic—in Germany:—"One owner, who had 3,000 sheep, now had scarcely forty left. This disease was popularly termed *Egeln, Egelichte, Lebern*"—these are the names by which the malady is yet known in Germany. The livers were full of worms (*vermium*). The English historians remark of this year that it was a memorable one to some great sheep-owners, and was known long after as the "rotten year," nearly all their sheep having died. And Schnurrer, a German chronicler of these plagues, in his *Chronik der Seuchen*, writes:—"The year 1663 was very wet in England, and sheep and cattle suffered severely from fluke-worms (*Egelwürmern*)." This outbreak continued for two years. The visitations of this and similar scourges are described in my work on "Animal Plagues," published in 1871.

Liver-worms.

Unfortunately, however, the liver-worms have not always been regarded as the direct cause of the disease, and only too often they have been altogether overlooked. Even with good observers, not long ago, they were considered as secondary, and the wet as the primary cause. It was admitted that wet seasons caused the humours of the body to become more watery. The solids and fluids of the body, in fact, become super-saturated, through water entering not only through the skin—a kind of mechanical imbibition—but also by the sodden herbage consumed, and the moist air inhaled. The flesh lost its colour and became pale and flaccid—the blood was also thin and watery, and contained fewer red particles, which had less colour than in healthy animals—water formed beneath the skin, and this infiltration was made evident by the dropsical swelling that took place beneath the lower jaw and the belly. In the conditions in which the sheep lived and derived their nourishment, were to be found the conditions in which they might become infested with worms—but the existence of the malady was independent of these.

Cause.

At the present day, those who are most competent to give an opinion agree that the *Distomata* are the cause, not the effect, of the disorder; and that they alone produce that great disturbance in the function of the liver which leads to such fatal constitutional derangement. There can be no doubt

that wet seasons do predispose to invasions of the worm, just as they favour its development; and that the rain, the wet ground, and the food saturated with moisture, produce a state of the system which is not adapted to resist the attacks of such vermin.

When cattle were more extensively grazed out of doors during wet seasons than now-a-days, they suffered heavily, as did other animals which fed on grass; and though it is probable that there are very few sheep whose livers are not infested with flukes at all seasons of the year, yet it is only during or soon after long-continued wet weather that the disease makes itself known by its destructive effects.

There are two kinds of worm which produce the disease, though both belong to one family—the trematode or fluke-worm; they are the *Distoma hepaticum* and *Distoma lanceolatum*. Sometimes the two are to be found in the same animal, sometimes only one, most frequently the *Distoma hepaticum*. This is about four times larger than the other, and is covered with rough spines, which enable it to produce great irritation in the bile canals. The *Distoma lanceolatum* is smooth on the surface, but it is so much smaller than the other that it can penetrate further up these canals, and so perhaps give rise to as much disorganisation of the liver. The worms are usually very numerous, as many as five hundred full-grown worms being found in a sheep by one investigator, and more than a thousand by another; but the number is usually from one to three hundred. They are closely packed, and rolled up or flattened against each other in the smaller canals; and the symptoms to which they give rise, and which are so painfully familiar to shepherds and observant sheep-owners, are due entirely to the damage resulting from the presence of these worms in such an important organ of the body as the liver, the slightest derangement of which produces most marked effects on the general health.

These effects are certainly not immediately produced, so far as the fluke-worms are concerned; indeed, the disease which we may venture to designate *Distomatosis* is generally one of slow progress. Those who have most carefully studied the disorder recognise in it four periods or stages. These coincide with the different periods of worm infection (if we can apply the term to a disease which, as we shall show hereafter, is really contagious), and with the grave alterations these worms produce in the interior of the liver.

The first period may be set down as occurring in the months of August, September, and beginning or the whole of October, when the flukes or *Distomata* swallowed in the food and water, and having passed with these into the stomach and intestines, find their way into the bile passages leading from the small intestine into the substance of the liver. The worms are at first very minute, and their presence in these canals may do little more than stimulate the secretion of bile, by the irritation they set up. But this stimulation soon leads to congestion and sub-acute inflammation of the liver, though the existence of the disease may not be suspected at this time.

The second period may commence towards the end of September or in October, and last during November and often into December—an interval of about six weeks—extending sometimes to twelve weeks.

It has been observed that at this time the liver is rather shrunken, and the walls of the bile canals are thickened. The worms have increased considerably in size, and are generally collected in bundles, and look greenish in the masses of mucus which surround them. The function of the liver is now seriously impaired, and all the other organs and tissues of the body suffer in proportion to the degree of this impairment. The sheep begins to show signs of debility and prostration.

The third stage occupies at least three months, and these are January, February, and March. The liver is then much wasted, symptoms of jaundice

are noticed, and there is a marked appearance of bloodlessness. Debility is extreme; dropsical swellings exist at the most dependent parts of the body; the wool falls off or comes out with the slightest touch. The *Distomata* have reached their full development, and the liver has suffered its maximum of morbid alteration, and may be either much diminished in size, or enlarged and softened. Death may occur at this time from exhaustion. Should the animal live, however, in April, May, June, or July—according to circumstances—the worms leave the region where they have passed the winter and attained their full growth, and pass once more into the intestine, where they probably die and are digested. But before this occurs they have provided for the perpetuation of their species. Early in March, and during that and the three succeeding months, the matured worms have been developing and extruding numberless eggs into the bile vessels, and these eggs are carried into the intestine by the bile. From the intestine they are conveyed with the excrement out of the body, and fall upon the ground. By means of the microscope, and by the aid of a very low power, these eggs can be readily distinguished in myriads—oval-shaped and furnished with what zoologists term an "opercula"—a kind of lid. The eggs of the *Distoma lanceolatum* are four times smaller than those of the *Distoma hepaticum*, and rounder and darker in colour, but the eggs of both appear to contain granular matter. It has been computed that there are from 2,000 to 6,000 eggs in two pounds of excrement from a diseased sheep. In a single drop of bile from a sheep only moderately affected, from fifty to sixty eggs of the *Distoma hepaticum*, and only twenty of the *Distoma lanceolatum*, were found.

If the sheep does not die at the end of this period, through the severity of the other stages, it may partially if not wholly recover; but in many cases it does not thrive well; and this unthriftiness may be ascribed to the more or less complete obliteration of the bile canals, in which the altered remains of the worms can be discerned, as well as to the injury done to the liver. The degree of recovery, and of the rapidity with which death ensues, is greatly, if not entirely dependent on the number of flukes in the liver.

Though the course of the disease has been divided into the above-described periods or stages, yet this division is more or less arbitrary. Infection does not take place among all the sheep in a flock at the same time, nor yet to the same extent; and it consequently happens that some animals will be found more seriously affected, and in a more advanced stage of the disease than others; while, again, the duration of the disorder will vary.

Exposure.

Though moisture favours the development of a dropsical condition of the body, yet, as already insisted upon, it will not produce the symptoms which mark the existence of this particular scourge; and if it is so destructive during or after rainy seasons, in marshy regions, undrained land, or pastures often submerged, it is only because in these conditions the eggs find the essentials for their incubation, and the resulting embryos the surroundings necessary for their further maturation.

The exposure to wet which sheep undergo, and the too-aqueous food they consume, certainly weakens and disposes them to the ravages of the worm, which, when swallowed by them on the herbage, find their victims in a favourable state for their reception. Cattle and sheep which receive dry food do not suffer from distomatism.

What is Known of the Worm.

This is not the place to enter upon a consideration of the life-history of the *Distoma*, incomplete as that history is; neither is it absolutely necessary,

from a practical point of view. It is sufficient for our purpose to know that the worm is only found in the fully-developed state in the sheep (we are now treating only of the disease in ovine animals), and it is in that state that it produces eggs which are expelled from the sheep. From these eggs come embryos, which undergo changes, and require to enter the bodies of inferior organisms—such as snails or other aquatic creatures—in order to assume that larval form in which they again find admission to the stomach of grazing creatures. These molluscs abound in marshy and supersaturated pastures, and when they enter the digestive organs of the sheep they are dissolved, and the juvenile worm is set free to find its way into the liver. This is about the extent of our knowledge at present.

It would appear to be finally decided that the embryo of the worm passes from four to six months away from the sheep, after it has been expelled with the excrement, and that about two of these months are passed in the eggs, and two to four in the larval or cercarial form. It would, therefore, not be unreasonable to infer that the sheep are infected in the autumn—from August to November. The eggs will not hatch in the body of the sheep, though they are produced there; they evidently require other conditions than those to be found in the liver or intestines. The ova and the larva, though doubtless endowed with great vitality, must perish in great numbers during dry summers, if they do not find protection of some kind. After such seasons we do not hear of Fluke Disease—the immigration of the larva into the sheep has not taken place in the autumn, and therefore these are not infested. Pastures are only contaminated by being grazed upon by fluke-bearing sheep, which are the means of scattering the eggs upon them. No matter how damp grazing land may be, if it has not been frequented, particularly in the spring, by sheep whose livers contain the *Distomata*, the disease will not occur on it. Therefore it is that this malady should be viewed as a contagious disorder, and sanitary measures adopted accordingly.

It appears to be also ascertained that the larval form of the worm cannot exist from one year to another, unless it finds a host or bearer in the autumn; if it is not swallowed or housed at that time, in all probability it will perish in the winter, especially if this be severe.

Treatment.

The medical treatment of the disease is most unsatisfactory, and especially when there is any considerable alteration in the structure of the liver. To be anything like successful, measures should be adopted during the first period, and that is most difficult to discover. Dry nourishing food, tonics, and especially preparations of iron and common salt, strengthen the animal, and aid in restoring the deranged function of the liver; but they will not kill the worms, and it is difficult to find any agent which will do so. Oil of turpentine, benzine, and also petroleum, are supposed to have had some success in this direction, but their administration demands care.

As I pointed out in the *Live Stock Journal* some time ago, when writing on a kindred disease produced by worms in the air-passages—the so-called "Hoose" or "Husk"—we should look to preventive measures, to the destruction of the fluke-worm before it enters the sheep's body, or at least to keeping sheep away from sources of infection. Draining the damp pasture-land, or at least not pasturing sheep on it in the autumn, should be the main object aimed at. During wet or damp seasons, sheep should be as little exposed to the risk of infection as possible. Even on damp mornings they should not be allowed to graze during the early hours on pastures which have been tenanted by infected sheep. A liberal supply of dry food should also be allowed in wet seasons, and if possible "rot-producing" land should not be grazed upon for some time. The observations of competent men having

demonstrated that the excrements of sheep affected with the disease contain myriads of eggs, which are, after all, the essential elements in the perpetuation of the worm, and therefore the sole source of the disorder, it is evident that to get rid of distomatism, the eggs should be destroyed. Therefore the dung of sheep infected with the worms should be most scrupulously destroyed by some means or other; or if this be not possible, pastures which have been frequented by such sheep in the spring should not be grazed upon by healthy sheep towards the end of the summer nor in the autumn.

Precautions.

The forage also obtained in the spring-time or early summer from such infected land should only be given to horses, especially if it is in the green state. Pure water, and if possible that from running streams or from wells, should alone be allowed, in preference to that of ponds, pools, and ditches, which may contain the larvæ of the worm in some form or other. Infected pastures should not be grazed upon, except by horses, until they have been exposed to the low temperature of winter; and to make assurance doubly sure, it would be well to top-dress such pastures with some material that would have a pernicious influence upon the vitality of the young of the liver-worm. Considering the terrible losses it causes to farmers and flock-masters, surely it must be worth while making an effort to exterminate it. Intelligence and determination would achieve this object. The number of contaminated pastures in this country must be immense, if we may judge by the widespread havoc that has occurred recently, and the absence of care in admitting newly-purchased or strange sheep on yet untainted land. The season will soon be nigh when contamination will be repeated, and probably extended. Precautions should therefore commence with the commencement of contamination, and the chief of these is destruction of the eggs of the distoma by the removal or destruction of sheep excrement, and also that of cows, should there be any reason to suspect these of harbouring the distoma.

The day is not far distant, I trust, when all these parasitic diseases will be looked upon as we now view Foot-and-Mouth Disease, Lung Plague, Rinderpest, and other like contagious disorders. For my own part, I can see no difference between such maladies as "Hoose," "Gid," and "Rot," and those contagious scourges just enumerated. Microscopical germs produce the latter, and they are conveyed into the body by the food, air, or water the animals consume. The worms which cause the symptoms of "Hoose," "Gid," and "Rot" are not so minute, perhaps, but they act in a similar manner, and are controlled by the same laws. Therefore it is that I insist upon parasitic disorders being looked upon and treated as contagious in every sense of the word; and until this truth is fully recognised, we shall never get rid of them, nor cease to complain of the ravages they commit. We now know sufficient of the nature and habits of these worms to combat them successfully, and to annihilate them; and it only needs enlightened, unanimous, and energetic action on the part of sheep-owners, graziers, and shepherds, to free their flocks from such pernicious plagues.

TUBERCULOSIS OF CATTLE, FROM A CONTAGIOUS POINT OF VIEW.*

BY VETERINARY-SURGEON ALBERT, SCHWERTE, GERMANY.

"Is the flesh of tuberculous animals detrimental to human health?" This question was tolerably accurately answered in the affirmative by the scientific experiments made by Gerlach, and published in his *Archiv* (band i., heft i., for 1875). Even up to the present day veterinary surgeons are divided in their opinion upon this matter, some being for, others against, the correctness of Gerlach's view.

This controversy being started, naturally brought a diversity of opinion, and as a result, difficulty in the enforcing of the sanitary and police regulations relating to this disease. But at the same time, it gave a special stimulus to its study through observation and experiment. But after all, the results of this study are not great, when we think of what has been attempted during five years.

Experimental infection has divulged nothing of any consequence relative to the causes of the disease. Although it is of the greatest interest to private and national prosperity, yet it is of little value in solving the question raised by Gerlach. The discovery of the cause is undoubtedly a difficult question; the chronic character of Tuberculosis, its concealed and stealthy course, the frequent changes in a herd from buying and selling, and the many other pernicious influences which come under observation, all tend to prevent full elucidation, or at least to render such observations very incomplete. Besides these apparent obstacles, we find a mass of others—viz., the tenacity and continuance of the disease, which paralyses the endeavours of veterinary surgeons in practice; and yet this is the only field we have for observation. Such investigation can only show us the course and slow extension of this disease from one animal to another.

The only known cause of Tuberculosis is its capability of being transmitted from parent to offspring. All the others found in our text-books (such as acidity of the digestive canal, etc.) are simply hypotheses. But this hereditability alone is not sufficient to account for the great extension of the malady, nor does it explain its presence in cowsheds where breeding is not carried on, or where the young stock are obtained from other sources. In such places other causes must be at work, and the main one is the transmission of the disease from one animal to another. If in a cowshed there is present an animal having the disease, in a situation and condition favourable for transmitting it, then the disease will spread to all other animals in that shed, if they remain there for any length of time. And this will account, to a great extent, for the fact that Tuberculosis only appears in stall-fed animals, and that animals occupying certain sheds are most frequently affected.

Of all the various metamorphoses met with in Tuberculosis, that of caseation and caseous degeneration are most common. The expired air from a lung affected with caseous tubercle is infectious, if inspired by other creatures. This opinion has been arrived at, not from one, but from a large number of observations; though, to save time and space, I will record four only, since the symptoms in all were very similar.

I will first remark, by way of explanation, that it may appear to the reader as though a pause in the appearance of the disease took place between observations I. and II., but it was not so. Therefore I have only recorded observation I., because it offered the longest period for investigating its cause, and so gave me an opportunity to experiment with the healthy progeny for a long time.

* Translated from the *Wochenschrift für Thierheilkunde und Viehzucht*, Nos. 30 and 31, July, 1800, by G. A. B.

Observation 1.—At the time when the views of veterinary authorities upon the genesis of Tuberculosis not only differed, but were also so misty and obscure that they neither served as a guide nor a rule for practitioners, it was at this time (1848), I say (when I was a newly-fledged veterinary surgeon), that I was asked to treat a farmer's herd suffering from Tuberculosis. The disease had caused great losses in this herd for many years.

There were ten milch cows, one bull, and four calves on the farm; out of which three cows and a bull were sold and slaughtered yearly, these being replaced by breeding four calves. The three cows sold, however, did not always belong to the same class, inasmuch as they frequently belonged to different years' breeding: for instance, in one year they were two or three-year-old animals, in another aged cows, whilst in a third it might be a mixture of these. This, of course, was regulated by the market prices of the various animals at the time of sale, and hence there were to be found on this small farm animals of two, six, and twelve years of age. When first examined by me, there were two of these old animals had rough coughs and quick respiration. Since I knew that Tuberculosis existed in the herd, I had no hesitation in advising the owner to sell both these animals as quickly as possible, although the symptoms were so slight. This was agreed to, and both were (in the spring, 1849) put in a meadow in good condition. But when they were killed in the autumn, they were found to be affected with Tuberculosis; consequently the butcher (vendee) sued the seller (vendor), and the latter considered the breeder should be responsible for the loss. Therefore all three persons were in a very unpleasant and uncomfortable situation. They finally shared the loss between them.

In the meantime, I, as a young and zealous practitioner, studied the flora of the whole farm, and learnt that Tuberculosis was produced from Scrophulosis, and this from acidity of the chyle (*Spinola's spez. Pathologie und Therapie*, page 1692), therefore I endeavoured to withhold from the animals all food in which I thought there was an atom of acid. Moreover, a suitable dose of Aqua calcis was added to the drinking-water, which was given fresh every day. A portion of the pasturage was thoroughly drained, and the weather watched when the animals should be turned upon it; in fact, all possible precautions as to the malady, so far as our knowledge of the subject extended at that time, were put into execution.

These regulations were conscientiously carried out for a year; but as symptoms of the malady again showed themselves, they were discontinued, and in their stead a prophylactic, based upon the infectious theory of the disease, was substituted. The four calves bred during this and the following ears were sold, and others were bought in their place from healthy animals.

During the year (1851) two other cows of the old herd were found coughing, and they gradually showed an unhealthy and emaciated appearance. An endeavour was made to fatten them; one became half-fat, the other made no progress at all. The first was sold to a slaughterman (*Aassehlächter*), the second was killed for my examination. The obduction showed nodules on the pleura, and caseous patches in the liver, and marked tuberculous changes in the mesenteric glands. Up to this time the four calves had been kept separated from the main herd, but as their standing was required for four new ones, they were (in the spring of 1852) removed into the larger shed with the older animals. They remained apparently healthy until the spring of 1854 (viz., at three years old), when one of them commenced to cough. This cough, which was at first insignificant, became, after the animal calved, very much increased; during the summer it disappeared to a minimum, but in the following autumn returned with even greater violence, and continued so during the winter. In the spring of 1855 the animal was turned into a

pasture, and was taken up very fat the following autumn, but when killed all the serous membranes lining the thoracic and abdominal cavities were covered with small nodules.

There was only one cow of the old herd now remaining, which we will call A, and which had been for three years, 1852 to 1855, standing near the above-mentioned animal; all the other animals had from time to time been sold off. This cow had been coughing for a long time, although not the slightest disturbance was recognised in her general health, and I had not the remotest idea of the possibility of contagion; so it remained, since it was the favourite of the wife's, for years between the newly-purchased young animals. The offspring of this cow began sooner or later to cough and to show signs of its effects upon the system, and from the constant changes of situation the animals were subjected to, during the various periods of milking or pregnancy, it was not much more than a year before all the animals in the shed were coughing as bad as the original herd.

What with buying fresh animals from a new stock, and the very gradual manner of disposing of the old, we were nearly nine years before the last cow, A, of the old stock was fattened and sold to be killed, and an opportunity given for examining its carcase.

As far as I can remember, the cow was destroyed on December 22nd, 1856, and the *post-mortem* revealed twenty-three large and several small nodules in the lungs. Twelve of the large ones were calcified, nine caseous, and two softened. One of the latter was situated on the superior border of the right lung; its contents had perforated a large bronchus and plugged it up. The lobule behind this had collapsed and was impervious to air, but it contained a large number of the largest nodules.

The bronchial glands were very much enlarged, and in their centres a number of grey and caseous degenerated tuberculous patches were seen. The mesenteric glands, and all the organs of the abdominal and pelvic cavities, were free from nodules.

The results and experience I obtained during these nine years upon the extension of the disease, led me to infer that it was possible, and indeed extremely probable, that Tuberculosis was transmitted from one animal to another; although at that time of day, I could scarcely permit myself to believe such a bold proposition, much less publish it. Still, I ventured to communicate the fact to the owner, and advised him to sell the whole of the stock and replace them by new ones. After this advice, however, my services were no longer required, and a quack was engaged in my stead. Whether the disease disappeared under his treatment, or whether it still exists in the stable, I cannot say; all I know is, that during the year 1878 a cow which came from that stable was killed, and the flesh condemned as unfit for human food on account of extensive Tuberculosis.

Observation II.—Farmer N. had a herd of twenty-four to twenty-six head of cattle. In 1864 he bought a calf, the mother of which died a year afterwards of Tuberculosis. This calf, after its second year, did not seem to thrive and grow as it had previously done; its head and neck were small and long, and its bones were soft, so that the whole appearance of the animal gave one the impression that it was in a hectic condition. The owner lost all interest in it, although it remained in his stable until the autumn of 1869, when it was killed. In the course of the winter (1869-70) several of the other animals began to cough—two of them, which we will call A and B, so badly that the owner consulted me about them.

I found the whole herd in good condition, and during my visit the two animals above-mentioned only coughed once. On auscultating A, I found that in several parts of the left lung there was a whistling sound during inspiration to be heard, which, of course, might be due to various causes. I

may mention that at this time I had not heard of the death and *post-mortem* appearances found in the calf above-mentioned.

The cough remained in this and other animals during the winter and the following summer. In the winter (1870-71) all the animals belonging to the farmer were coughing, with the exception of the yearlings and calves, which were kept in another building. In the spring of 1871 both the cows A and B were so emaciated that they had to be destroyed. The obduction showed caseous Pneumonia and tubercular infiltration, also isolated nodules on the pleura, while the bronchial glands were enlarged, and infiltrated with the same material. It was at this time that I first learnt, by questioning the owner, of the death of the first calf, and also that its thoracic organs presented the same appearance as the cows' before us. Therefore, from my previous experience in observation I. (and many similar not mentioned), I had no hesitation in asserting that the whole of the stock was affected with Tuberculosis, except the yearlings and calves. And my advice to the owner was to get rid of the whole of them as soon as possible. But this was easier said than done, without great sacrifice to the owner, not only respecting the actual sale of the animals, but also with regard to manuring and cultivating the land,* the period of pregnancy, and the stage of the disease, and the thousand and one other little but important factors to be taken into consideration before such a step could be taken. Upon second thought, however, the farmer contrived to provide stabling and meadows—completely separated from the others—for some fresh animals. This circumstance prevented my advice to get rid of the diseased ones being carried out, and as the symptoms apparently subsided in some of them, the necessity for so doing was in time forgotten, or at any rate neglected, and there are still some of the cows on the farm, and the disease is also still there.

During this long period (1864-71) nineteen animals have succumbed to the malady. The *post-mortem* examinations I have had the opportunity of making always present similar lesions; in one case only I found a nodule on the border of the epiglottis, and the tissue of the epiglottidean glands infiltrated with tuberculous material. During life this animal showed difficulty in breathing and swallowing.

Observation III.—I was requested by M. to visit a sick cow in the spring of 1873. The patient was bred by the owner, and was seven years old; another cow, standing by its side, was bought two years previously. The sick animal stood with depressed head and outstretched neck, and coughed frequently, especially whilst eating. She was emaciated, although she ate tolerably well. During inspiration there was a rough sound emitted in the neighbourhood of the larynx, from which I inferred there must be something acting directly or indirectly upon the glottis, but nothing could be detected by external manipulation. I considered it was due to an inflammatory swelling of the mucous membrane of the glottis, and treated the case for such. This, as well as all other methods of treatment, were, however, useless. After repeatedly visiting the shed, it struck me that the other cow was also coughing, and upon inquiry, the owner informed me that he bought this animal two years back from Butcher R. Then I recognized the animal as that which Farmer N. (observation II.) had sold to a butcher expressly to kill. Upon auscultating this animal, I detected several consolidated patches in the lungs, although there was no difficulty in respiration nor any signs of malnutrition present. As both cows were insured, and the one with the diseased larynx did not improve, but, on the contrary, was wasting, I advised that the inspector for the insurance office should be called, and the circumstances of the case related to him. The result of this interview was, that the cow with the diseased larynx should be destroyed at once and the owner

* Cattle being used in Germany for this purpose.

remunerated by the company ; the other was to be fattened and sold. But this settlement depended upon whether the diseased lungs of this cow prevented its fattening or not. This was accepted by the owner, and the cow was destroyed, when the following pathological changes were discovered. The mucous membrane of the arytenoid cartilages was thickened and covered with tenacious mucus, which, when removed, brought to view a reddened surface the size of a two-shilling piece, punctated by a greyish infiltration. When cut into, and the mucous membrane removed from the internal surface of the cartilage, this infiltration was found to be situated in the submucosa, and the vessels were greatly distended. The remaining part of the laryngeal and tracheal mucous membrane was normal. In the lungs several nodules—varying in size from that of a pea, and of a greyish colour —were found immediately under the pleura. The anterior lobe of the left lung was infiltrated with a greyish-white infiltrate. Bronchial glands were enlarged and contained grey nodules. In the liver there was a cavity the size of a hen's egg, filled with thick caseous fluid. Only one or two of the mesenteric glands were affected.

From the result of this *post-mortem* and my previous experience with Tuberculosis, I advised the owner not to place any fresh animals with the other animal, especially as it was summer-time, and the warmth would increase the danger of infection.

The other cow was quickly dried, and in July was put in a grass field, and removed in the autumn quite fat. It was sold for slaughter, and when opened I found more nodules on the serous membrane lining the thoracic, abdominal, and pelvic cavities than I had ever witnessed before or since. Both the bronchial and mesenteric glands were extremely large, and contained grey and yellowish masses of tubercle. The lungs contained several rather soft or caseous degenerated patches of various sizes, also signs of local inflammation and collapse, etc.

Observation IV.—A farmer who had from twenty to twenty-five animals of various ages on his farm, called me in to see a cow that had been ill for a long time. I found the cow emaciated, the hair dull and rough, respirations 25 per minute and difficult, seldom lay down, and grunted when lying down and getting up, appetite diminished, only coughed now and then, and the pulse 73 per minute. On auscultating the right lung, I detected a portion (about the size of a saucer) impervious, and in the left one several small points which showed diminution of the bronchial tubes. The owner informed me the cow had been in his possession for the last five years, and that she had had the cough for at least twelve months, but he did not think that of much consequence, as the one next to her had had a similar cough ever since he bought her two years ago, without affecting her health in the least. (I will name this cow D.) The cow standing on the other side of D also had a cough, but was a remarkably good animal.

As I had all the symptoms of contagious Pleuro-pneumonia before me, I closely cross-questioned the owner, and he informed me that when he bought the cow from the dealer, two years ago, she had a cough.

On February 2nd the first-named cow died suddenly. I found by *post-mortem* examination that the left lung contained several caseous patches the size of pigeons' eggs, and in the posterior lobe of the right lung there was a cavern (containing fluid) opening into a bronchus. The sudden death was no doubt due to asphyxia. The posterior apex of this lung had collapsed. Caseous material was also found in the spleen and liver. The mesenteric glands were enlarged, and nodules were present on the pelvic portion of the peritoneum.

After this examination, there could no longer be any doubt as to the malady cow D and its neighbour were suffering from. Although, after several examinations, I could not detect any whistling sound in the lung, and the other only

coughed occasionally, still I considered it my duty to caution the owner as to the danger the other animals were being subjected to. He was anxious to eliminate the disease from his herd, but the difficulty to be overcome was great, especially as the condition of both the diseased animal and the healthy had remained the same for months. This made him doubt the correctness of my prognosis.

The next summer, autumn, winter, and spring (1877) passed by without any tidings of the health of this herd reaching me; but in the autumn of 1877 one of these animals was killed for the consumption of the family, and found to be suffering from Tuberculosis; therefore I was asked to examine it. In the right lung there was a caseous patch, and several in the liver and spleen; the peritoneum of the right side was studded with several grey nodules. When I examined the herd, I not only found the two cows above-mentioned coughing, but three others. Upon auscultating one of them, I found the normal vesicular murmur had disappeared at the lower border of the left lung, and was replaced by a whistling tone. Cow D and her neighbour remained much the same. As the custom of keeping the milking cows separated from the pregnant ones existed in this, as well as most other sheds, the animals were necessarily constantly changing their stalls in that shed. On March 18th, 1878, a three-year-old cow became ill soon after calving. It refused food, its hair was rough and unhealthy-looking, eyes sunk in their orbits, coughed frequently, mucous membranes pale. Respiration and respiratory murmur normal. At my request this animal was destroyed at once, and the following pathological changes presented themselves upon *post-mortem* examination. A few nodules on the anterior surface of the diaphragm, several on the right half of the peritoneum and on the border of the liver, the mesenteric glands very much enlarged, indurated, and studded with tuberculous material; bronchial glands normal. In the meantime the owner had died, and I again implored the widow to get rid of the remaining animals; this was done, in the autumn of 1878. The cow D, which had always enjoyed good health, was fattened, and was the last to be sold; it was killed on November 10th, 1878. In the lungs I found, pretty evenly distributed, from thirteen to fifteen caseous patches about the size of pigeons' eggs. One of the nodules, situated in the superior border of the anterior lobe, was evidently the starting-point of an extensive infiltration extending to the inferior border of the lobe. The bronchial glands were somewhat enlarged; otherwise the thoracic and abdominal cavities were free from nodules.

This stable has since been cleaned, disinfected, etc., and the newly-purchased stock remain perfectly healthy.

The milk of these cows had been used for human consumption until March 18th, 1878; after this it was given to the pigs (unboiled). About May the woman noticed that the four to five-months-old pigs began to waste. One of the animals died, then another, and after a few weeks a third, so she called me in to examine it.

I found the pig emaciated, stunted, and pot-bellied. At the root of the aorta there were two grey tubercles the size of hazel-nuts, and about fifty grains of clear serum in the pericardial sac. Bronchial glands and lungs were healthy. The mesenteric glands were all enlarged, and contained tuberculous material. Two nodules the size of hazel-nuts were found in the liver. In the course of a few weeks, the two remaining pigs of this litter died with similar symptoms. Another litter, a little older, remained apparently healthy, and were fattened and killed the following winter. I had the opportunity of seeing the first killed and opened, and found that the spleen contained a caseous mass, and the mesenteric glands were enlarged and contained grey tubercles. I had no opportunity of examining the others, but the owner informed me that they were healthy.

WHAT IS THE "LOUPING-ILL" OF SHEEP?

[What must be a very mysterious ovine disorder, has long been prevalent, it would appear, more especially in the border counties of England and Scotland, where it is known as the "Louping-ill" (jumping or trembling disease), and prevails more severely in some parts than others. It has been ascribed to a variety of causes, all or none of which may operate in its production; but its pathology is perhaps as obscure now as it was a quarter of a century ago, and its causation is as little known. From the best descriptions which have been given of its symptoms, one is almost forced to the conclusion that it is the German "Lähmungskrankheit" or "Traberkrankheit" *(Tabes dorsalis, Hydrorachis, Myelomalacia ovis)*—a sheep malady well described by our colleagues in Germany. But there can scarcely be a doubt that not one-tenth part of the cases reported to be those of Louping ill are really that malady at all; indeed, we are assured by an excellent observer, Dr. Brydon, of Hawick, who has studied the diseases of sheep for many years, that every ovine disorder—Pneumonia, Pericarditis, Meningitis, Enteritis—in fact, every *itis*—receives this convenient designation. The following report, presented to the Teviotdale Farmers' Club, and we believe drawn up by Captain Lockhart, chamberlain to the Duke of Buccleuch, is of much interest as a summary of what is known at present of this multiform scourge, which should certainly receive a thorough scientific investigation with regard to etiology, pathology and prophylaxis.]

WHEN the question of Louping-ill was first brought under the notice of this club, in the autumn of 1878, a series of questions was drawn up and circulated throughout the district and elsewhere; but, with the exception of Professor Walley and a few others, the replies were all from correspondents within the district, and there was a difficulty experienced in getting information from other parts of the country. The replies received were carefully summarised by Mr. Aitchison, Brieryhill, and discussions were held on March 6th and April 4th, 1879, with the result that a committee was appointed to try and investigate further the cause of Louping-ill and Braxy, and they now beg to report as follows:—

Through the kindness of numerous correspondents we have ascertained that *Louping-ill* or *Trembling* (which, as far as our information goes, seems to be the same disease) prevails in the following districts.

In Scotland.

Berwickshire.—There are occasional cases in the Lammermuirs, but they are rare.

Roxburghshire.—The disease is unknown in the Cheviots proper, but prevails extensively in all the western and upper parts of the country.

Selkirkshire.—More or less throughout the hill districts.

Peeblesshire.—More or less throughout the hill districts.

Dumfriesshire.—In Nithsdale—On the west side of the Nith for some ten miles south from the boundary with Ayrshire. The east side of the valley is only slightly affected. In Annandale—In the parishes of Kirkmichael and Wamphray, on the east side of the valley. In Eskdale—From the middle of the parish of Eskdalemuir till within a few miles of Langholm, being worse on the west than on the east side of the valley.

Galloway.—In the neighbourhood of Castle-Douglas.

Ayrshire—South—On the south side of the Stinchar, in the parishes of Barr, Colmonnel, and Dailly; also slightly in the parishes of Ballintrae and Ochiltree.

Lanarkshire.—Upper Ward—The disease does not prevail to any extent.

Argyleshire. Skye and other Islands.

Inverness-shire.—The western portion.

England.

Northumberland.—At the head of Reedwater, Tynedale, and Tarsit Burn.

Cumberland.—In the report on prize farms in the Journal of the Royal Agricultural Society, 1880, p. 579, the writer, in reporting on Mr. Mounsey's farm, High Lorton, states that he lost nine or ten ewes from a complaint to which The Fells are subject, described to him as a form of *Enteric* Fever, called *Louping-ill* in Scotland.

Devonshire.—There would seem to be a disease in this county with very similar symptoms to our Louping-ill.

There may be other districts from which we have not received information.

It is extremely arbitrary in its character, and may be very bad on one part of a farm and not on another; or on one side of a burn or dyke, while the other side may be free—to all outward appearance there being no difference in soil or herbage. One hirsel may have it, another not, though the sheep may meet night and morning on the bare hillside.

Though there are occasional outbreaks in the autumn, the prevailing time for the disease is from April to June, during which time sheep, and especially lambs, are very subject to it. Cattle that are put out on hill pastures at that time of the year are liable to be attacked, also pigs; and it is alleged that poultry even, and winged game, are not exempt.

Most observers agree in thinking that stock are more subject to the disease on dry, benty bog or fogged-up pasture, though it is often very difficult to say that one part of a farm is more liable than another.

In order to make our report as complete as possible, as well as for the information of those who are unacquainted with the disease, we quote the following description of the symptoms.

Spooner, in his work on sheep, p. 199, under the heading "Louping-ill," states that "It seems more peculiar as an epidemic to North Britain than to England, for in the latter country it has not been described by any writer."

He gives a description of the disease by Fair, taken from the 8th vol. of the *Veterinarian*, from which we extract the following:—"On the animals being slightly attacked there is an evident falling off in condition, and a dull, heavy appearance, with deadness of coat. There is a loss of power in one or more limbs, and sometimes of a whole side, or even the whole of the animal, as if struck with Palsy, or Tetanus, of both which diseases, as well as Apoplexy, it seems to participate in no slight degree; the head and neck being more or less frequently, according to the violence of the attack, convulsively or spasmodically contracted or drawn towards the shoulders or back, with a violent tremor or constriction of the œsophagus, so as to endanger suffocation when any liquid, however small the quantity, is attempted to be conveyed into the stomach. This is also much retarded, or prevented from being accomplished by a convulsive and spasmodic locking of the jaw, a frothy saliva being at the same time emitted from the mouth, more especially when the convulsive fits have come on, which, in severe cases, frequently takes place from once to twice every five minutes, accompanied by a very laborious and quick respiration. The hurried breathing, however, subsides altogether as soon as the fit has terminated. In this state the animal will remain for hours or days, and if he does not rally from it, death sooner or later ensues. . . . . Some few instances, however, have occurred among my flock, when they have most unexpectedly recovered; and in other cases they have for a length of time dragged a seemingly powerless hind leg behind them, and the left leg oftener than the right one. When this, however, takes place, the limb still remains cold and dead for a time, in despite of the use of friction or stimulants. If it is a fore leg it is not uncommon, after the sheep gets on its feet again, for a tumour of the size of, or even of a hen's

LIBRARY OF THE
STATE AGRICULT'L COLLEGE
FORT COLLINS, COLO.

egg, filled with pus or ichor, to appear. On being punctured it presently subsides and is lost. These abscesses usually appear in the neighbourhood of the joints, but sometimes about the arms, the brisket, or any neighbouring part of the body. Other symptoms of this disease are a wild, excited appearance on being approached by a man, dog, or any other animal, and even by one of their own species; a champing or gnashing of the teeth, and foaming at the mouth while yet on their legs, accompanied by vertigo and delirium, also the assuming of a rotatory or side-long motion. . . . . In this complaint there is not unfrequently a great appearance of sickness, and the animal exhibits great restlessness and anxiety, mingled with debility; he trembles and tosses his limbs about, as if enduring great pain. At this time there is also less of involuntary tremor and convulsive twitchings than at other stages of the disease; and it seems as if the seat of the complaint was in the thoracic or abdominal viscera. . . . . In fact, the disease does occasionally assume so many different forms, although each is more or less connected and allied with the other, that the most skilful veterinary practitioners may for a while be puzzled to say whether it is most akin to Tetanus, Apoplexy, or Palsy."

Gamgee, in vol. ii of "Our Domestic Animals in Health and Disease," p. 503, under the heading "Louping-ill, or Hydro-rachitis in Sheep," states as the result of investigation by Professor Murray, late of Cirencester, in 1862:—"On the onset of the disease the animal falls down and struggles convulsively; paralysis has not yet set in, but the functions of the nervous system are disordered, the limbs are no longer subject to the control of the will, but plunge about convulsively. This is followed by a rapidly advancing paralysis of the limbs affected, which are most commonly the hind. The animal staggers with the fore or hind limbs, or towards the affected side, but soon loses all control over the diseased extremities, and is compelled to maintain a recumbent position. Being unable to move about in search of its food, the animal becomes weak and emaciated, and dies in a period varying from a few days in the acute cases to several months in the chronic. Consistently with the onset of the paralysis the appetite may be depraved, although it is usually rather voracious, and after death the stomach is often found to contain earthy matters and hair balls. In the advanced stages the urine and fæces are often discharged involuntarily, and in similar circumstances amaurosis and unconsciousness are not uncommon."

Professor Law, Cornell University, in his work "The Farmer's Vet. Adviser," p. 257, under the heading "Hydro-rachitis, or Enzootic Myelitis—Trembling," states:—"Symptoms vary somewhat. Many lambs appear paralysed when dropped, either in the hind or fore extremities, or both; others are attacked a few days or weeks later. Sometimes the head or entire body is drawn to one side by some spasm; in other cases there is a spasmodic movement of the limbs in progression (Louping-ill). There is usually much apparent stupor and drooping ears, but the patient is easily startled, and in its efforts to escape will tumble headlong. A nervous trembling is frequent, and there is tenderness or itching of the loins or croup."

Professor Walley, in reply to the questions issued by our club, states:—"*In the acute form*—Great excitement, especially on being frightened, rushing violently about, spasms of muscles, wild staring eyes, stertorous breathing, convulsions, loss of consciousness. *In chronic form*—Emaciation, chronic twitching of muscles (like St. Vitus' Dance), palsy of two or more legs, if not, uncertain, unsteady gait, something similar to *Sturdy*, probably abscesses and sores in skin."

We also quote the following descriptions in regard to *post-mortem* appearances. Spooner, p. 200, again quoting Fair, states:—"The *post-mortem* appearances are the following—There is for the most part a quantity of thick

and turbid fluid, of a greenish or yellowish colour, found collected in the pleural or pericardiac cavity. When the animal dies immediately on being struck, it will often exhibit every appearance of general inflammation. Every part will be turgid with blood, but there has not been sufficient time for gangrene to follow. If the symptoms have not been violent, but the animal lingers for a considerable time, the blood will seem to have been wasted or consumed, and the flesh white. A considerable quantity of coagulated or extravasated blood is often found on the brain, and also in the cervical portions of the vertebral canal."

Gamgee states, p. 504, that "Professor Murray invariably met with increase of the cerebro-spinal fluid, while Mr. Mathewson never met with this condition, but noticed in some that the cord was paler and softer than natural. The cases seen by the former were, however, more acute, extending only over a few days, while those seen by the latter seem to have extended over several weeks. The discrepancy may thus be partly accounted for—a part of the liquid having become absorbed in the interval. In some lambs killed shortly after the onset of this malady we have found no great increased vascularity of the membranes covering the cord, and a thicker or more gelatinous condition of the cerebro-spinal fluid."

Professor Walley states he has not as yet found any evidence of either organic or functional disease of the stomach or digestive organs; has not made any analysis; has found worms in the digestive tract.

The late Professor Goodsir and Mr. Robertson, Kelso, made some investigations some years ago, and were of opinion—1st, That the symptoms exhibited during life were to be attributed to disease of the great nerve-centres. 2nd, That the lesions of the nerve-centres were chiefly met with in the portion of the spinal cord in immediate connection with the brain, and were more intimately related to changes in the covering of the cord than to alterations of the true nerve-tissue itself.

Mr. Robertson writes that had it not been for his move to London, he fully intended to have devoted further study to the subject during the past season.

Dr. Hamilton, Hawick, a member of our committee, writes:—"*Cerebro-spinal Meningitis.*—The disease known to farmers and shepherds as 'Louping-ill,' or 'Trembling,' has pathologically interested me for several years, and in different parts of the country. I have examined many subjects, and the result of these examinations I here epitomize:—

"1. About one-half of the cases examined were found not to have died from the disease, nor to have suffered from it, the cause of death generally being inflammation of the lungs.

"2. Inflammation of the lungs and Pleurisy was often a complication in the veritable *Cerebro-spinal Meningitis.*

"3. The disease is primarily a congestion of the membranes of the brain and spinal cord. The serous membranes of the interior of the brain being at times also affected (that is, the ventricles), markedly so in cases where the lung complication is found.

"4. The serous membranes of the body generally are liable to be affected.

"5. The result of the congestion of the cerebro-spinal membranes is an effusion of serum in the cavities surrounding the brain and spinal cord. This effusion presses upon, and so paralyses the nerves arising from the particular part. The congestion where most marked in the brain givesrise to more sudden death; when in the lumbar region, to paralysis of the posterior extremities. Excitement is the result of congestion without effusion.

"6. When the disease is chronic, softening of the cord is the result, and this is permanent paralysis, or death.

"7. The paralysis is bilateral; when unilateral there is a complication."

We are given to understand that, at the instance of the late Mr. Scott

of Lethan, some investigations were made a good many years ago by Mr. Finlay Dun, but we have not had access to any records of his inquiries.

A variety of causes have been assigned, such as overstocking, poverty, in-breeding, barren east winds, indigestion from eating withered grass, ergot, and ticks.

Spooner, p. 201, still quoting Fair, states :—

"Louping-ill is not only endemic, or confined to particular localities or districts, but often more widely extended and epidemic. Its contagiousness is doubtful, but it is a periodical disease. The usual time of its appearance in hill-sheep is from the beginning of April to the end of May, during which months it commits great ravages, both among ewes and lambs. From twenty to twenty-five per cent. are often lost, and in some seasons considerably more. This is in a great measure regulated by the spring being late or early. When the grass comes rapidly to a full bite, the apoplectic attacks are most frequent and fatal. . . . . There is little or no Louping-ill during the autumn or winter months. The ewes and lambs in the best condition are the most liable to be attacked by it, although in the months of April and May, after a severe winter, they rarely are so. . . . . If the months of April and May are mild, less of the disease prevails ; but if we have cold and sleety easterly winds, it will be more frequent. Dry, easterly, frosty winds in April and May are also productive of Louping-ill to a considerable extent."

Spooner also gives a description of the disease by Hogg, under the terms *Thwartil-ill*, *Trembling*, or *Louping-ill*. He differs from Fair in thinking the disease attributable to overstocking and poverty, and considers they are more liable "in dry frosty seasons, when the spring is hard and severe. . . . This distemper is peculiar to dry soils, and prevails in dry, barren springs, when the wind settles in the east. If the sheep are in good condition, they are not nearly so apt to take it ; but if they are either low in body, or the wind has a tendency to centre easterly, the greatest care must be taken to use the flocks gently."

Gamgee states :—

"The causes of this malady are not sufficiently understood. They are doubtless intimately connected with the geological formation of the soil, and the consequent modifications of the grasses and water on which the animals subsist. These causes are aggravated by exposure, sudden vicissitudes of heat and cold, and all such influences as reduce the general stamina of the animals. On this subject Mr. Mathewson remarks—'It is curious also to notice the influence that cultivation sometimes has on this disease. On those southern exposed farms (referring to those on the north bank of the Tweed) I have already instanced, that before they were cultivated to the extent they now are, and while mostly lying in rough pasture, the disease, I have been told, was not more common than on the opposite side of the river. It is only since all the low-lying and rich land has been torn up by the plough and improved that it occurs to such fatal extent. Here I must explain that since these improvements have been made on the land, and sufficient turnips and artificial grasses raised, the sheep are brought from the hills or unimproved portion of the farm, and folded on turnips during the winter, and are subsequently kept in the young grass fields till after the lambing season. True, a good many lambs may die while in the parks ; but the old sheep are seldom affected till they are driven to the hills or to the rough natural pasture.' On some farms cattle and pigs are affected as well as the sheep, and the pastures can only be safely grazed by horses. Mr. Mathewson looks upon it as entirely due to coarse grasses grown on certain soils, adding that 'on some farms that have admitted of being entirely cultivated the disease has almost totally disappeared, lambs only being liable, and that to an incon-

siderable extent.' On many farms it will attack animals in good condition, but in all cases thin and ill-conditioned animals form the majority of its victims. Want of proper food, cold, and wet are the chief exciting causes."

Professor Walley states :—

"I am of opinion that the disease is due to a combination of circumstances, as peculiarities of soil and pastures, geographically, chemically, and geologically ; barometrical and thermometrical influences, debility from breeding in, impaired constitution from exposure and bad management in early life, the ravages of external and internal parasites, the kind of manure or top-dressing used, and the moist condition of the herbage generally, heavy stocking as a rule (*i.e.*, except in the case of a rapid growth of grass), and wet land are more productive of the disease than the reverse conditions. Cold wet seasons are most prolific of the disease, and increase its malignity. East and north-east winds predispose and assist in the production of disease, and in any case excite the development of its manifestations or hasten its invasion."

Professor Law states, p. 257 :—

"The true cause of this affection is unknown, but it has prevailed, especially on newly-limed land which has undergone a great temporary increase of fertility. In some parts of Scotland its prevalence is circumscribed by the windings of a river (Tweed) and without any ostensible cause ; or it is fatal on one slope (south) of a hill, while the opposite escapes ; or again, it prevails on the richest table lands. It attacks mainly lambs, or sheep under 1½ years old, and proves very fatal, often destroying the entire offspring of the year."

With reference to the above, we are not of opinion that the disease prevailing on newly-limed land has any affinity with Louping-ill. It exists to a certain extent, we are informed, in the neighbourhood of Jedburgh and Gordon ; but it only occurs on breaking up and liming thin, poor moorland, and is known hereabout by the name of "Swing-back."

There is, however, another disease amongst lambs, which prevails pretty extensively in this district, known locally as "Grass-ill." It attacks lambs when they first begin to eat grass. A good many die from it annually, and it is most prevalent on those farms liable to Louping-ill.

The answers from farmers and shepherds show a pretty general concensus of opinion that heavy stocking tends to aggravate the disease, and that it is generally associated with a cold, barren season, and the wind peculiarly in the east.

It is quite possible that many cases of so-called "Louping-ill" may be caused solely by indigestion, either from over-eating, or eating indigestible or withered grasses ; but the coarse and withered grasses exist on farms free from disease as well as on those subject to it. Yet on the sound farms cases of even Indigestion are rare, so that this cause, even with the predisposing agents of poverty, exposure, etc., would not account for more than a fractional number of the cases of "Louping-ill" on farms subject to it.

Being anxious to ascertain whether there could be anything in the grasses or herbage of a poisonous or injurious nature, your committee asked Mr. Andrew Brotherston, Kelso, a skilled and practical botanist, to examine several farms, and his report is herewith appended (A). On his first visit in early summer of last year, he was struck with the coarseness and roughness of the hill pastures as compared with the Cheviots, and it at once occurred to him that *ergot* or some other poisonous fungoid might be the cause of the disease ; and on again visiting the same farms later, when the grasses were in flower, he found that a very large proportion of them were very much ergotised.

The baneful effects of *ergot* have been long known, and have been pointed

out by many authorities, especially in causing abortion in cattle and sheep, and flockmasters have been cautioned against allowing grass to come to seed too freely, or putting stock amongst grass when allowed to flower. In addition to the authorities cited by Mr. Brotherston in his report, we make the following quotations, which have come under our notice. At the Agricultural College Congress, held in Cirencester on June 4th, 1880 (reported in the *Country Gentleman's Magazine* for July) Professor Buckman gave a very important address on "The Natural History of Meadows and Pastures in connection with the Diseases of Animals," urging the necessity of observing every plant, and noting that when any decadence was perceptible, there a greater amount of bad or rougher kinds of grasses or plants would make their appearance, and pointing out how much pastures were benefited by top-dressing. He also remarked that not sufficient attention was paid to parasitic plants, instancing ergot as one of them, and its tendency to produce abortion, and saying it was a subject which ought to be investigated, and he was not quite certain that animals are not occasionally killed by taking too much ergot.

Professor Mayer also made some important remarks on the same subject, stating with regard to "Staggers," that the peculiar structure of the third stomach rendered it particularly liable to disease when any astringent substance was pertaken of, such as the leaves of *black willow*, and that other plants had the same effect. The disease caused a very severe kind of constipation which was exceedingly difficult to remove. The stomachs of ruminants contained a large quantity of food, and when congested it was very difficult to remove. He alluded to "Moor Evil" or "Wood Evil," which entirely arose from the animals partaking of vegetable substances of a poisonous nature, which produced inflammation of the whole membrane of the bowels, and in some cases it was very fatal. He knew cases in which farmers could not turn out their stock until these grasses were cut down. He then said there was another affection of the limbs and bowels known as "Louping-ill," the cause of which had been rather obscure, but was supposed to be due to the sheep and lambs feeding on ergotised grasses. He had no doubt Professor Buckman had had his attention called to the investigations now going on in Scotland where it had been taken up by one of the farmers' clubs, and a botanical gentleman had been sent to examine into the pastures and meadows where the sheep had been feeding; a large number of specimens of ergotised grasses had been found, which were unknown to have produced ergot before, and these had no doubt caused this paralytic affection, which in some cases had proved fatal. Further investigations were going on, and he trusted the result would be that they would be able to get rid of these ergotised grasses, and obtain others more beneficial.

In reference to ergotism, Professor Law states, p. 63:—"From time immemorial, animals and men have suffered from eating the cereal grains which have been attacked with ergot. This was especially the case when agriculture was in its infancy, for then a damp cloudy season would cause this affection to spread after the manner of a plague. The same holds still to a less extent; and in the New World, as well as the old, not only the ergot, but even the smut of maize will bring about untoward effects. These results may be divided into three categories according as the poison acts on the brain, producing convulsions, paralysis, or profound lethargy; on the womb, tending to abortion; or on the extremities, causing dry gangrene. Symptoms of the nervous form—unsteady gait, a great tendency to lie down and to remain in a torpid state, little conscious of what is passing around, loss of lustre of hair or feathers, coldness of skin, dilatation of the pupils of the eyes, and dulness of the special senses, mark the early stages. This may go on to paralysis or deep lethargy without any active

nervous excitement. Or paroxysms supervene, during which the special senses become more acute, the animal very excitable and twitching of the muscles or spasms, like those of lockjaw or Epilepsy, convulse the patient. Then there is a relapse into the former stupor and drowsiness with palsy of the hind limbs, or knuckling forward at the fetlocks. Death may ensue in a few hours or days, or the affection may become chronic, the patient remaining with variable appetite, but getting no good of his food, with spasms of the pharynx, vomiting, or diarrhœa; he usually passes off in a convulsion."

A practical confirmation of the above is given by a correspondent who was several years in New Zealand, and who states that—"We are almost entirely free from the general evils which home flocks are heir to. However, curiously enough, we are, in *dry summers*, a good deal troubled with attacks in sheep, assuming almost the same symptoms as you describe for your "Louping-ill." Such attacks always prevailed amongst sheep in English grass paddocks; and for long we were completely puzzled as to the cause, until we discovered that it was the effect of stock eating *ergot* on the rye-grass seed. We afterwards discovered that the ergot had also spread to some of the native grasses. Sheep under the influence of ergot will take to all appearance a fit if disturbed or made to run, and even if moved gently will stagger about like a drunken man. I have seen two or three thousand sheep in one of our paddocks that we could not remove out of the field except with the greatest difficulty, and by giving them any amount of time. I have heard of sheep having to be carted out of the field, as they would not drive, and the owner was afraid of losing them. We generally leave them completely undisturbed when we find them affected, as even riding through the paddock causes several of them to tumble over. I don't remember ever seeing any sheep paralysed permanently."

Mr. Robertson, Kelso, writes:—"When Mr. Brotherston, of Kelso, told me that he intended making an exhaustive examination of the grasses of some farms in Upper Teviotdale, with a view of assisting in the discovery of the cause of 'Louping-ill,' I indicated to him that in all probability if the cause was *dietetic*—which I am inclined to believe it is—the factor in its production must be sought for rather in the condition of the individual plants and grasses, than in any difference of variety or species. He exhibited to me the ergotised grasses he had found in the different farms visited; and hearing the extent to which this diseased condition existed, it seemed to me that to regard 'Louping-ill' as a form or mode of manifestation of 'Spasmodic Ergotism' was not an unnatural supposition."

On this point Dr. Hamilton remarks:—"I have considered the several theories relating to the cause of this disease, and I am of opinion that the ergot theory is the most plausible. The action of *ergot* upon blood-vessels is to contract them. This contraction, however, can only exist for a limited time, to be followed by relaxation, following the law of action and reaction. A similar example is seen in the arms of the blacksmith, which for a time, owing to the stimulus of exercise, is rendered very strong. Continue this exercise too long, and paralysis is the result. Similarly, the ergot being continued too long, gives rise, as I have already said, to relaxation, which is congestion of the arteries."

In an article on ergot in vol. x., part 2, of the Journal of the Royal Agricultural Society of England, p. 433, by Wm. Carruthers, consulting botanist to the society, the whole life-history is given as traced out by Tulasne, and the author explains that at two different stages in the life of ergot, bodies are produced which have the power of propagating the disease—viz., the spores of the perfect fungus developed from the ergot, or the spores (*spermatia* or *conidia*) from the early *sphacelia* state of the parasite. The plant is carried

over the winter in a dormant ergot condition. A large proportion of the ergot in a field when it is fully ripe falls to the ground during the operations of the harvest, or by the friction of the spikes against each other through the action of the wind. These ergots remain in the ground during the winter without undergoing any change. They are dormant, like the seeds of plants, until the following spring or summer, when they produce crops of the perfect fungus (*Claviceps purpurea*). The spores of the *claviceps* are ripe about the time that the cereals come into flower, and by the action of the wind or rain they obtain access to the flowers. . . . . Ergot is most abundant in wet seasons, and in fields where it is seen it has been found in the greatest abundance in those parts which are low or undrained. . . . .

Tulasne states as the results of his experiments that if the ergot does not produce the *claviceps* during the first year it has fallen to the ground, it loses its vital powers.

As there appeared to be nothing impossible in Mr. Brotherston's idea that ergot might be the cause, and as it did not seem more improbable that the sheep might take it up from the ground in spring, in the *Sclerotium* state, than that they should take in the fluke in its larva state, either direct from the herbage, or while still in the bodies of snails (as has been proved to be the case in the propagation of Rot), we determined on trying an experiment, and five hoggs were dosed this spring with ergot of rye under the supervision of Mr. Webster, veterinary surgeon, and Mr. Hobkirk, of Broadhaugh. The results were disappointing, as the only effect produced was scouring. This one experiment should not, however, be held as conclusive, in the face of the authorities quoted that ergot will produce other symptoms, as there may have been mistakes in the mode of administering, or in the quantity; or, as has been shown above, the ergot, from not having been previously tested, might have lost some of its vitality.

In further prosecution of our inquiries, Mr. Webster was authorised to move about and endeavour to examine as many cases as possible, and his report is appended (C):

It so happened that as a rule the disease was less virulent this year than usual, so that he could not examine as many cases as we had hoped, and was unable, therefore, to give any decided opinion as to the cause. In *post-mortem* examinations of protracted cases he states:—"I found complications, such as inflammation of the lungs and bowels, which, in my opinion are the effects and not the cause of 'Louping-ill.'"

With reference to the two stomachs and contents sent for analysis to Mr. Falconer King, he reported:—"The chemical results were not altogether satisfactory. I got the results, certainly, which would have been yielded by ergot; but I could not satisfy myself exactly that that was the only thing which could possibly have given these results. It looks very like, though, as if ergot were present."

In the case of the lamb sent in by Mr. Hobkirk, of Broadhaugh, Mr. P. Geddes, Lecturer on Zoology at the School of Medicine, Edinburgh, made a careful microscopic examination of the blood, and reports as follows:—"On examining a drop of blood taken from one of the small arteries of the face during the life of the animal, I was at once struck by the marked absence of white corpuscles. After the animal had been killed by a blow on the head, I examined blood from the skin, muscles, stomach, intestines, spleen, and liver, and found everywhere the same rarity of white corpuscles. In blood taken from the heart and lungs, however, white corpuscles were present in normal quantity. Without examining the blood of other diseased and healthy animals I am, of course, unable to assert that this scarcity of white corpuscles in the system generally, with the exception of the thoracic viscera, is necessarily associated with disease. The watery effusion in the neural canal

contained a few red and white corpuscles. I searched for *bacteria* with especial care, in the blood, the watery effusion, and the contents of the stomach, but found nothing of the kind. . . . . I am disposed to think that a thorough search ought to be made, not for ergot only, but for all other fungoid parasites upon the pastures where the disease occurs, and should be happy to devote an afternoon to the inquiry."

Professor Williams writes that the *post-mortem* examination of the lamb "showed a gelatinous condition of the spinal cord, but the evidences of the disease were not sufficient to enable any one to form a definite conclusion." As to the appearance of the blood as described by Mr. Geddes, he does not think that any importance should be attached to it, as the second specimen examined by him was quite normal in appearance.

There was a delay in the receipt of Mr. Geddes' letter offering to assist in a botanical search, so that when we endeavoured to avail ourselves of his proffered help he had gone abroad; but Mr. Brotherston was requested again to visit some of the farms already gone over by him, and make a supplementary report (B).

In reporting the disease in lambs in Suffolk (alluded to by Mr. Brotherston), and Dr. Taylor's letter suggesting *red rust* as the cause, the editor of *The Field*, Oct. 16th, 1880, adds the pacifying remark that the lambs were also suffering from *Husk*, and that it was not proved that any had died that were not also suffering from *Husk*. This, therefore, is not a conclusive case At the same time it is another instance showing the necessity for a careful. inquiry into the properties, poisonous or otherwise, of the *parasitic fungi* so common in our pastures.

With reference to the case of the cow at Chapelhill (alluded to by Mr. Webster in his report) this appeared at first sight a decided case of "doctors differing." Mr. Webster considered it a pure case of Louping-ill, while Mr. W. Grierson, V.S., Castle-Douglas, thought it a case of *Indigestion*, caused by coarse indigestible grasses; but then he seems to be of opinion that that is the sole cause of "Trembling," and writes there is good deal of "Trembling" in his district in the spring months, when there are cold east winds, proceeding, in his opinion, from indigestion, the only remedy being a change on to young pasture. On his recommendation some of the pastures have been limed with good effect, also burned; he further recommends hand feeding. He hopes to give further study to the subject next season.

It is a curious fact in connection with this disease, that as a rule *ticks* are found on the farms liable to the disease, and infest the sheep during exactly the same period that the disease prevails, or between April and June, and many eminent and practical farmers and others have come to the conclusion that they cause the disease, either from the excessive irritation they set up, or from their bites being poisonous.

The ticks in question are of the family *Ixodes*, or true ticks, and must not be confounded with the ordinary sheep tick, *Melophagus ovis* or *ked*, which belongs to the order *Diptera* or *flies*, and is not really a tick at all.

Not very much appears to be known of the life-history and habits of the ticks. They belong to the class *Arachnidæ*, or *spiders*, to the order *Acaridæ* or *mites*, and to the family *Ixodes*.

Some account of them is given in the handbook on "Economic Entomology," p. 185, by the late Andrew Murray, in connection with the collection at Bethnal Green Museum; also in an article on parasites and parasitic animals, by Professor Simonds, Royal Vet. College, vol. i, part 1., page 41, of the Journal of the Royal Agricultural Society; and in vol. iii., page 234, of Baron Walckenaer's "Natural History of Insects," from which we have extracted the following information.

The *Rostrum*, or sucking proboscis, is barbed backwards, which enables

it to retain its hold of the skin ; so much so, that in endeavouring to remove it the proboscis is generally broken off, and it becomes difficult to obtain perfect specimens.

There are several species of ticks in this country.

The mission of the male is done as soon as he has impregnated the female, and nature has no further use for him ; but the female has still to lay her eggs and must therefore be fed, hence—

It is only the female tick that we find with the abdomen distended with blood, that of the male is not capable of distension.

They are provided with sucking apparatus, which enables them to live both on plants and animals.

Their habits are at first herbivorous, as it is from the herbage that they find their way to the creatures on which they fix ; and when mature they greedily avail themselves of every opportunity of settling on vertebrate animals, whose blood they suck instead of sap.

In this way, though their natural habitat is amongst herbage and foliage, they can be carried by animals from their proper habitat to places where they live and propagate—for instance, in dog kennels—so that, as regards our British species, it is impossible to say that they are actually parasitic on the animals on which they are found, or that separate kinds are appropriated to each animal, except, probably, in the case of bats.

Mr. Fred. Moore, Curator of the Econ. Entomological Collection at Bethnal Green Museum, to whom some specimens were sent, which were obtained from Skelfhill, has made out that there were two species—*Ixodes marginata* —a small red species, with broad brown thorax, and a larger one, of various sizes, of a whitish colour, with small brown thorax—*Ixodes erinaceus.*

From the fact of female ticks, of so large a size, and *apparently gravid*, being found upon sheep, as well as the young tick, both male and female of various sizes, Mr. Moore is inclined to think that they may breed upon the sheep.

Some of the specimens of ticks from Skelfhill were sent by Mr. Brotherston to the Rev. O. P. Cambridge, who was also of opinion that they were *Ixodes erinaceus* and *I. marginatus;* there were also specimens of the ked (*melophagus ovis*). And in replying to Mr. Brotherston, he wrote—"I did not imagine any *disease* would be caused by the bite of an *Ixodes*, but I have known the general health of the animal injured by the crowds of 'ticks' by which it was infested." As Mr. Cambridge, though an authority on *Arachnidæ* had not given much study to the *Acaridæ*, he sent on the specimens to a German friend, but has not yet heard from him.

In this country they have hitherto been considered comparatively harmless, though there can be no doubt, from the large numbers which in some seasons infest the sheep and lambs, that the irritation, at any rate, must be very considerable. They may be seen in large clusters completely round the neck, as well as on other parts of the body ; and on skinning carcases, inflamed spots are frequently found beneath.

There is as yet, however, no *proof* that such inflammation or irritation is sufficient to injure the spinal cord. Seeing their previous habitat was in the herbage and amongst rough, coarse grasses or moss, it is conceivable that they might act indirectly as carriers of vegetable poison, and on this point, Mr. Robertson, of Kelso, writes :—"The co-existence and contemporaneousness of the tick with the condition known as Louping-ill, is generally admitted, I believe ; still I fear we want further information and more facts on this part of the subject, particularly as it is said that ticks do exist in some districts where Louping-ill is unknown. In admitting the supposition that the tick is the cause, or a cause, of the disease, it seems to be more in accordance with our present knowledge of morbid processes in animal bodies, that

it should be regarded rather as the carrier of a specific blood poison, than as the active agent in a general or special spinal disturbance from peripheral nerve irritation."

Prof. Walley writes:—"The tick has absolutely no connection with the actual production of the disease. It is only a concomitant, but from the debility which, when numerous, it produces it may act as a predisposing and, from the irritation, as an exciting cause."

In a subsequent letter from Mr. Geddes, written while on the Continent, he asked:—"What is done with the bodies of the animals which die of the disease? If buried, pray have some of the places marked. You will see the possible utility of this by referring to my account of Pasteur's researches in the recent science article in the *Nineteenth Century*.

(*To be continued.*)

THE VETERINARY MEDICAL BILL.

WE announced in our last impression that the Bill for the protection of the public and domestic animals, by limiting the title of Veterinary Surgeon to members of the Royal College, will probably come before Parliament early this Session. The Bill has been drafted by an eminent barrister, who has had great experience in this speciality of the law; and in this instance he seems to have performed his task with commendable skill, as will be seen from the copy which we now have much pleasure in publishing. As the position of veterinary surgeons is not well understood in this country, it has been considered advisable to issue a circular, giving the reasons and the necessity for such a Bill becoming law. This circular we also append, in order that the profession may be kept *au courant* with the various steps achieved in this all-important movement. Those of our colleagues who are desirous of aiding in obtaining the Act, by exercising their influence on Members of the Houses of Lords or Commons, will be furnished with copies of the Draft Bill and Circular (which should accompany the Bill) on application to the Editor of the VETERINARY JOURNAL, or to the Secretary of the Royal College of Veterinary Surgeons, 10, Red Lion Square. So far as we can ascertain, the public feeling is strongly in favour of the Bill, and wonder is generally expressed that the application for legal protection had not been made years ago.

THE VETERINARY MEDICAL ACT, 1881.

Draft Bill.

WHEREAS by two several Royal Charters or Letters Patent, granted respectively on the 8th day of March in the seventh year of the reign of Her Majesty Queen Victoria, and on the 23rd August in the fortieth year of the reign of Her said Majesty, it was granted, ordained, and declared, among other things, that certain persons therein named, together with such other persons as then held certificates of qualification to practise as Veterinary Surgeons, granted by the Royal Veterinary College of London or by the Veterinary College of Edinburgh respectively, and such other persons as then were or might thereafter become students of the Royal Veterinary College of London, or of the Veterinary College of Edinburgh, or of such other Veterinary College, corporate or unincorporate, as then was or thereafter should be established for the purposes of education in Veterinary

Surgery, whether in London or elsewhere in the United Kingdom, and which Her said Majesty or any of her successors should, under her or their Sign Manual, authorise in that behalf, and should pass such examination as might be required by the Orders, Rules, aad Bye-laws, which should be framed and confirmed pursuant to the said first-mentioned Royal Charters or Letters Patent, should, by virtue of the said Royal Charter or Letters Patent, be members of and form one Body Politic and Corporate by the name of The Royal College of Veterinary Surgeons, by which name they should have perpetual succession and a Common Seal; and that the Veterinary Art as practised by the members of the said Body Politic and Corporate should be thenceforth deemed and taken to be and recognised as a profession, and that the members of the said Body Politic and Corporate, solely and exclusively of all other persons whomsoever, should be deemed and taken and recognised to be members of the said profession, or professors of the said art, and should be individually known and distinguished by the name or title of Veterinary Surgeons. And whereas the said College is now regulated and governed by and according to the provisions of the said several Royal Charters or Letters Patent, and also by and according to certain Bye-laws made by the said College for its regulations and better management, and whereas a Register is kept in which the Christian and surname of each and every member of the said College, with his place of residence and the date of his diploma, are entered by the Registrar of the said College, and whereas it is expedient that persons who require the aid of a Veterinary Surgeon for the cure or prevention of diseases or injuries suffered by horses, cattle, and other animals should be enabled to distinguish qualified from unqualified practitioners, be it enacted as follows:

1.—This Act for all purposes may be cited as "The Veterinary Medical Act, 1881."

2.—Any person who shall wilfully and falsely pretend to be or take or use the title of Veterinary Surgeon, or any name, title, addition, or description implying that he is a Professor or Practitioner of the said Veterinary Art, or that he is registered as a Member of the said Royal College of Veterinary Surgeons in the manner hereinafter mentioned, or that he has received any Diploma, Certificate, or Authority from the said College authorising or entitling him to act as a Veterinary Surgeon, shall be deemed to be guilty of an offence against this Act, and shall upon a summary conviction for any such offence be liable to a penalty not exceeding or to be imprisoned for a period not exceeding

3.—It shall be the duty of the Registrar for the time being, appointed in pursuance of the said several Royal Charters or Letters Patent and the said Bye-laws, to keep the Register as correct as possible in accordance with the said Royal Charter or Letters Patent and the said Bye-laws, and to erase the names of registered persons who shall have died, or of those ordered to be erased by the Council of the Royal College of Veterinary Surgeons; and shall from time to time make the necessary alterations in the addresses or qualifications of the persons registered; and to enable the said Registrar for the time being to fulfil the duties imposed upon him, it shall be lawful for him to write a letter to any registered person, addressed to him according to his address on the Register, to inquire whether he has ceased to practise or has changed his residence; and if no answer shall be returned to such letter within the period of six calendar months from the sending of the letter, it shall be lawful to erase the name of such person from the Register, provided always that the same may be restored by the Council of the Royal College of Veterinary Surgeons, should they think fit to make an order to that effect.

4.—The Registrar for the time being shall, in every year, cause to be printed, published, and sold, under the direction of the said Council, a

correct Register of the names in alphabetical order, according to the surnames, with the respective Residences, and Medical Titles, Diplomas, and Qualifications, with the dates thereof, of all persons appearing on the Register as existing on the 1st day of January in every year, and such Register shall be called "The Veterinary Medical Register," and a copy of the Veterinary Medical Register for the time being, purporting to be so printed and published as aforesaid, shall be evidence in all Courts and before all Justices of the Peace and others that the persons therein specified are Registered according to the provisions of the said Royal Charters or Letters Patent and the said Bye-laws; and the absence of the name of any person from such copy shall be evidence, until the contrary shall be made to appear, that such person is not registered according to the provisions of the said Royal Charters or Letters Patent and the Bye-laws. Provided always that in the case of any person whose name does not appear in such copy, a certified copy under the hand of the Registrar for the time being of the entry of the name of such person on the Veterinary Medical Register, shall be evidence that such person is registered under the provisions of the said Royal Charters or Letters Patent and the Bye-laws.

5.—In England offences against this Act may be prosecuted, and penalties under this Act recovered, and sentences under this Act enforced, before a Court of Summary Jurisdiction in manner directed by the Act of the Session of the eleventh and twelfth years of the reign of Her present Majesty, chapter 43, intituled "an Act to facilitate the Performance of the Duties of Justices of the Peace out of Sessions within England and Wales with respect to Summary Convictions and Orders," and any Act amending the same.

6.—In Scotland offences against this Act may be prosecuted, and penalties under this Act recovered, and sentences under this Act enforced, under the provisions of the Summary Procedure Act, 1864, or any other Act for the time being in force for the like purpose in Scotland.

7.—In Ireland offences against this Act may be prosecuted, and penalties under this Act recovered, and sentences under this Act enforced, in manner directed by the Petty Sessions (Ireland) Act, 1851, or any other Act for the time being in force for the like purposes in Ireland.

8.—Any sum or sums of money arising from conviction and recovery of penalties as aforesaid, shall be paid to the Treasurer for the time being of the said Council.

9.—This Act shall commence and take effect from the day of , A.D. 188 .

The Veterinary Medical Bill of 1881.

The designation of "Veterinary Surgeon" was not known in the English language until the establishment of the Royal Veterinary College in 1791, when its graduates were so styled.

Previous to this period, those persons who ministered to the ailments of animals were known as "Farriers," "Cow Doctors," "Cow-leeches," etc.

The title of Veterinary Surgeon was always that conferred upon those who studied and graduated at the Veterinary Schools until 1844, when the Royal College of Veterinary Surgeons of Great Britain and Ireland was incorporated by Royal Charter, and constituted the only licensing body in these kingdoms. It now stands in the same relation to the Veterinary profession that the Royal Colleges of Surgeons and Physicians do to the Medical profession.

The Charter of 1844 has the following declaration:—"And we do further declare and grant, that the Veterinary Art as practised by the members of the said body politic and corporate, shall be henceforth deemed and taken to be and recognised as a *profession, and that the members of the said body politic*

and corporate, SOLELY AND EXCLUSIVELY OF ALL OTHER PERSONS WHOMSOEVER, *shall be deemed and taken and recognised to be members of the said profession, or professors of the said art, and shall be individually known and distinguished by the name or title of* VETERINARY SURGEONS."

For many years, at the end of the last and commencement of the present century, unqualified persons do not appear to have assumed the title ; but as the public began to recognise the value of Veterinary Surgeons, and would not readily employ Farriers or other incompetent persons, these adopted the designation, and not unfrequently even that of Member of the Royal College of Veterinary Surgeons.

The Charter of 1844, not being a statutory enactment, was supposed to be insufficient for the prosecution of such individuals who so imposed upon the public, and an Act of Parliament has not been applied for until the present time. A bill has, however, been recently drafted by an eminent barrister to remedy this defect in the law, which will be shortly introduced into Parliament.

In direct proportion as Veterinary education has improved—as the expense of study has increased and the graduation tests become more severe—so does the number of pretenders appear to have become augmented. Almost every student who is pronounced utterly imcompetent by the Examining Board of the Royal College, and is consequently rejected, goes into practice under the title of "Veterinary Surgeon," "Member of the Royal Veterinary College," or "Member of the Royal College of Veterinary Surgeons." Besides these men, farriers, grooms, coachmen, blacksmiths, dog-dealers, and others so designate themselves ; and these men are in nearly every instance very illiterate, and quite unfit to be entrusted with the treatment of sick or lame animals. Nevertheless, by the title they have adopted, they impose upon the public, who believe them to be graduates of the Royal College of Veterinary Surgeons ; and by their very frequent maltreatment, these men not only expose those who employ them oftentimes to serious loss, but they also inflict much unnecessary suffering upon dumb animals. There are innumerable instances of this, and the Royal Society for the Prevention of Cruelty of Animals can testify to many.

On the score of humanity to animals alone, the adoption of the title of Veterinary Surgeon or other misleading designation by such incompetent and irresponsible men, should be strictly prohibited. These persons often perform operations in the most barbarous manner, from their total ignorance of anatomy and surgical principles, as well as the clumsiness and coarseness of their manipulation ; while in disease, owing to the absence of knowledge of physiology and pathology, as well as inability to diagnose the different maladies, they commit serious errors—errors which are frequently fatal to the sick animals—from the adoption of remedies or the administration of drugs quite unsuitable to the cases, and the action or proper quantities of which these men are unacquainted with.

The public who employ such persons, having suffered serious pecuniary loss and inconvenience, naturally, but unfairly, throw the blame on the Veterinary profession. As a consequence, the profession in turn suffers grave injury in reputation from the misdeeds—social as well as medical—of these pretenders.

The Royal College of Veterinary Surgeons has no control over such persons ; neither has it any redress for the wrongs it suffers at their hands. But it assumes entire responsibility for the acts of its members, and has fixed a standard of professional and general conduct, any departure from which is visited with reprobation or severe punishment. In a supplementary Charter granted in 1877, power is given to the Royal College to remove from the Register the names of Members who have misconducted themselves.

"It shall be lawful for any meeting of the Council, at which not less than two-thirds of the Members shall be present, and with the consent of three-fourths of the Members so present, but not otherwise, to remove the name of any Member from the Register of Members of the said College, and he shall thereupon cease to be a member of the said College." It will be seen that the above provision cannot apply to the unqualified persons referred to.

If the Veterinary Medical Bill becomes law, then the removal of a member's name from the Register will deprive him of the right to style himself Veterinary Surgeon, and should he do so, he will be liable to fine or imprisonment. This in itself will be a great advantage to the profession, and an additional safeguard to the public, as it will protect them from unworthy, though qualified men.

It is not sought in the Bill to directly suppress empiricism or quackery, nor to put down unqualified men, but to give the public the opportunity of knowing whom they employ—the qualified practitioner or the unqualified man. The measure is therefore a public one, and appeals not only in this direction for approval, but also merits consideration on the score of humanity.

The Royal College of Veterinary Surgeons has done, and is now doing its utmost to raise the standard of Veterinary education, as well as the quality of the Veterinary Surgeon.

There are four Veterinary Schools in the United Kingdom, whose students are licensed by the Royal College. Every student before entering one of these schools has to undergo a matriculation examination. On admission he is required to study for three years, and be a pupil with a qualified practitioner for another year, before he can present himself for final examination for his diploma. The examinations are of a severe and searching character, and are conducted by the most eminent men in the Medical and Veterinary professions.

The public are therefore guaranteed that the practitioner who is entitled to call himself a Veterinary Surgeon is an educated and well-trained man, who can be sued in cases of neglect or want of skill, and who is also responsible to his profession for his conduct. At present, from any one being at liberty to adopt the title, there is no guarantee of this; consequently there is imposition, loss, and cruelty to animals.

The Veterinary profession is the only one which is not protected by law, and the absence of this protection is a serious public evil. People are protected from the dangers of imposition when ill, by the Medical Act.

The Medical Act 21 and 22 Victoria, chap. 90, 2nd August, 1858, entitled, an Act to Regulate the Qualification of Practitioners in Medicine and Surgery, recites as follows:—"Whereas it is expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners;" and clause 41 enacts that:—"Any person who shall wilfully and falsely pretend to be, or take or use the name or title of a physician, doctor of medicine, licentiate in medicine and surgery, bachelor of medicine, surgeon, general practitioner, or apothecary, or any name, title, addition or description implying that he is registered under this Act, or that he is recognised by law as a physician, or surgeon, or licentiate in medicine and surgery, or a practitioner in medicine, or an apothecary, shall, upon a summary conviction for any such offence, pay a sum not exceeding twenty pounds."

Surely dumb animals need protection from ignorant, perhaps cruel men, when they require medical or surgical treatment!

Unqualified practice in the profession of law is also a penal offence. Not

long ago one of these practitioners was prosecuted, *on behalf of the Crown*, by the Attorney-General, Solicitor-General, and a learned junior, before Baron Pollock, and fined £50. The Attorney-General observed that the result of the provision of the Act of Parliament was "that every unqualified person who drew certain legal instruments incurred a penalty; and, in his opinion, the provision was a wise one, and necessary for the protection of properly qualified practitioners, as well as for the public. It was very hard upon a man who had gone through a long, a laborious, and an expensive training, and who had thereby duly qualified himself for the practice of the law, that he should be subject to the competition of those who were unqualified, and, as a rule, were quite unfit to undertake the conduct of legal matters; and it was for the interest of the public that their legal affairs should be transacted by duly qualified persons, who, in case of want of skill or negligence, were liable to an action, or were subject to the control of the Courts." No incompetence appears to have been alleged against the defendant in this case.

The securing of skilful and competent treatment for our domestic animals when diseased, which is based upon a thoroughly scientific training in the individual entrusted with this treatment, touches more or less directly the pecuniary interests of every owner of stock or possessor of animals in the kingdom—and that is placing the matter on the very lowest footing; for there can be very few proprietors, even of such domestic pets as the dog and cat, who would not, as a matter of humanity, wish to have the advantage of scientific advice and treatment for them when suffering.

Humanity is deeply concerned in the skilful medical and surgical treatment of dumb creatures which minister so largely to our wants and pleasures, and in the Charter of Incorporation granted under Her Most Gracious Majesty's sign manual in 1844, this is recognised where it is stated that graduates of the Royal College of Veterinary Surgeons, by "their practice, under the blessing of Divine Providence, tend greatly to the alleviation of the sufferings of those animals entrusted to their care."

THE PROPOSED VETERINARY COLLEGE IN IRELAND.

As will have been observed from the notices in the Journal for the last two months, a movement has been instituted in Dublin, having for its object the foundation of a veterinary school or college there, with power to license. The movement is entirely unprofessional—*i.e.*, got up by persons unconnected with the profession, and who appear to be more or less unacquainted with the position of veterinary medicine in these kingdoms, or with the requirements of Ireland. The reason why our colleagues in that country were ignored, we can only infer from the fact that we believe they are, almost to a man, in opposition to the project, and that this opposition would be unpalatable to the wire-pullers in the concern. These will be satisfied with nothing less than a Royal Hibernian Veterinary College, which shall teach students and license them, and so render the sister island independent of England and Scotland. The independence, however, is rather questionable, considering that the persons who have such noble aspirations are not ashamed to ask Government to give them £10,000 (some reports state £20,000) to start the concern, which, like several other as fruitless institutions in that country, would have to be maintained by an annual subsidy also furnished by the tax-payers of the three kingdoms. Government is asked to step in and do what the lack of independence and enterprise has failed to accomplish.

A teaching school could only be objected to in one way—we may have

too many of them ; but a licensing college would be of no benefit to Ireland, and would certainly prove most detrimental to the progress of veterinary medicine in the three kingdoms. The Council of the Royal College of Veterinary Surgeons, determined to maintain the unity of the profession, have taken active steps to neutralise the efforts of these perhaps well-meaning, but certainly badly-informed persons, and a memorial has consequently been transmitted to the Lord Lieutenant of Ireland. "England's difficulty is Ireland's opportunity" has been a favourite bye-word with the disaffected in that island ; and the sad state of affairs existing there at present has, no doubt, been taken advantage of to demand a grant of money from the Government, to start what would in all probability be a very unsatisfactory speculation for Great Britain. Our colleagues in Ireland are strongly of opinion that another licensing college would be most pernicious in its influence there, and are loyally moving to oppose it. The manner in which they have been ignored in the business is a marked insult to them, and one which they spiritedly resent.

We trust the Government will not be weak, and yield to the insensate demand. Considering that we have received no aid—either college or schools—from the country, it will be indeed strange if the request of a few laymen will extort a large sum of public money wherewith to damage the profession. The memorial of the Royal College is couched in the following terms :—

To His Excellency EARL COWPER, K.G., *Lord Lieutenant of Ireland.*

THE MEMORIAL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

SHOWETH,—That the Council and Members of the Body Corporate of the Veterinary Profession in Great Britain and Ireland, view with much anxiety and apprehension the application which has been made to your Excellency for permission and Government aid to establish a Licensing Veterinary School or College in Ireland, sincerely believing that such a College, if founded and with power conferred to grant degrees in Veterinary Medicine and Surgery, would be injurious to the progress of Veterinary Science in these Kingdoms, and prejudicial to the best interests of its Professors and Practitioners.

That there is no necessity whatever for another Licensing Veterinary Corporation, inasmuch as by the Charter granted under Her Most Gracious Majesty's Sign Manual in 1844, it was ordained that certain persons therein indicated by name, "together with such others of our loving subjects as now hold certificates of qualification to practise as Veterinary Surgeons granted by the Royal Veterinary College of London, or by the Veterinary College of Edinburgh, respectively, and such other persons as respectively now are, and may hereafter become, students of the Royal Veterinary College of London, or of the Veterinary College of Edinburgh, or of such other Veterinary College, corporate or unincorporate, as now is or hereafter shall be established for the purposes of education in Veterinary Surgery, whether in London or *elsewhere* in our UNITED KINGDOM, and which we, or our Royal successors, shall under our or their sign manual authorise in that behalf, and shall pass such examination as may be required by the orders, rules, and bye-laws which shall be framed and confirmed pursuant to these presents, shall by virtue of these presents be members of and form one body politic and corporate, by the name of THE ROYAL COLLEGE OF VETERINARY SURGEONS, ETC." And elsewhere in this Charter, in alluding to the powers and privileges of the said Royal College, it is ordained that it shall act and do "as any other body, politic and corporate, in our United Kingdom of Great Britain and Ireland." Besides, Annual and other General Meetings of the Royal College are directed to be convened by advertisements "published in the London

Gazette, and in such two or more London and DUBLIN daily newspapers, and in two or more Edinburgh papers, as the Council shall think fit."

That the Royal College of Veterinary Surgeons was intended to be, and is now recognised to be, the Body Corporate of the Profession, and the only Licensing Veterinary College in Great Britain and Ireland, is further confirmed by Supplementary Charters granted in the 40th and 42nd years of Her Most Gracious Majesty's reign.

That by the Supplementary Charter, granted in the 40th year of Her Majesty's reign, the Annual Meetings of the Royal College of Veterinary Surgeons are ordained to be held in London, Edinburgh, or DUBLIN, as the Veterinary Profession in the three kingdoms, represented by the Council, may decide.

That the Royal College of Veterinary Surgeons of Great Britain and Ireland has a Board of Examiners, for the examination of Students of the several Veterinary Schools, and that sections of the Board meet for this purpose wherever these Schools are established, in conformity with the Charter and Bye-laws of the said Royal College.

That there are four Veterinary Schools at present in these kingdoms—one in London, two in Edinburgh, and one in Glasgow; and that, consequently, sections of the Examining Board assemble in these cities for the examination and admission into the Profession of Students educated in the above-mentioned Schools, at the most convenient periods of the year.

That neither these Schools, nor yet the Royal College of Veterinary Surgeons, have been established, maintained, or received pecuniary aid from Government, but have been self-supporting Institutions.

That the said Royal College does not oppose the establishment of a Veterinary Teaching School in Ireland, but your Memorialists may be permitted to remark that if it is subsidised by Government it is more than probable that the existing schools would, and with great reason, ask for pecuniary aid.

That the great progress in Veterinary Medicine and Surgery which has been effected in recent years, and without Government assistance, has been largely due to the ONE portal system of admission to the Profession; the said Royal College having been able to establish a uniform and gradually ascending examination for its Graduates, whereby the interests of the public and humanity have been correspondingly benefited.

That the necessity for maintaining this one portal system of admission to the Veterinary Profession has been recognised on several occasions by successive Governments, when application was made to have a Licensing College in Scotland; such application being invariably refused, notwithstanding the fact that there were at one time two, and at another time three, Schools in that country.

That in such a small body as the Veterinary Profession, two or more Licensing Colleges would simply mean an unhealthy rivalry, tending to disunion, to diverging or antagonistic views with regard to educational requirements, to a lower standard of efficiency in the Veterinary Graduates, and consequently to diminished confidence of the public in the Professors and Practitioners of Veterinary Medicine: all leading to public loss and inconvenience, through less skilful and humane treatment of sick and injured animals.

That the Medical Profession is now moving towards a ONE portal system of Examination, the abuses and defects attendant on a number of Licensing Bodies having been for a long time most severely felt by it and the public.

That the Veterinary Profession in these kingdoms, and especially in Ireland, while, perhaps, somewhat divided as to the advisability of a Veterinary Teaching School being established in Dublin, is unanimous in con-

demning the application for a Licensing College, and for the reasons just stated.

That the Royal College, being the Licensing Body for the United Kingdom, is willing and ready to do its duty, should Ireland possess a Teaching School, by establishing a Section of its Examining Board in that country, in the same manner as it has done for many years in England and Scotland, the Examiners being partly or entirely professional men in Ireland.

That your Memorialists would most humbly and respectfully press upon your Excellency's consideration the fact that three successive Charters, granted under Her Most Gracious Majesty's Sign Manual, have constituted the Body Corporate of the Veterinary Profession the sole Licensing Body in the United Kingdom, under the title of the ROYAL COLLEGE OF VETERINARY SURGEONS OF GREAT BRITAIN AND IRELAND; and that a Licensing College in the last-named country, while it would be a cause of irreparable damage to Veterinary Instruction and the improving condition of Veterinary Medicine in the three kingdoms, would place the Graduates of the former College, who are now practising in the sister island, in an unenviable and embarrassing position.

May it therefore please your Excellency to favourably entertain the urgent prayer of the Memorialists, that a Charter for a Licensing Veterinary College in Ireland be not granted, for the reasons above stated.

And your Memorialists will ever pray.

Signed on behalf of the Council and Members of the Royal College of Veterinary Surgeons of Great Britain and Ireland, by

GEORGE FLEMING, F.R.C.V.S.,
Army Veterinary Inspector,
President of the Royal College of Veterinary Surgeons.

A. W. HILL, *Secretary*, 10, Red Lion Square, London.
December 31st, 1880.

NEW MEMBERS OF THE PROFESSION.

AT the meetings of the Court of Examiners of the Royal College of Veterinary Surgeons, held January 3rd and 4th, the following students from the Royal Veterinary College were admitted members of the profession :—

Mr. Chas. Samuel Hunting* ...	Durham.
„ Edward Chas. Whisken ...	Welshpool, Montgomeryshire.
„ Edward Arthur Hollingham*	Eastbourne.
„ Ernest Emilius Bennett* ...	Poole, Dorset.
„ Alfred John Down	Bampton, Devon.
„ Arthur John Blake	Wimborne, Dorset.
„ Frank William Sharp ...	Winchcomb, Gloucester.
„ Edward Langford	Newbury, Berks.
„ Arthur Rogerson*	Wakefield, Yorkshire.
„ Stephen Edward Holmans*	Lee Green, S.E.

The following students passed their "*Second Examination*" at the meetings of the Court of Examiners on 5th and 6th January :—

Mr. Frederick Morton Wallis.	Mr. Alexander Henry Waddell.*
„ Philip Turner.	„ Frank Joslen.
„ Edward James Mellett.	„ Frederick Henry Pinkett.
„ Herbert Pollard.	„ Edward James Sewell.*

Mr. William Henry Bartrum.*

The following passed their "*First Examination*" at the meetings of the Court of Examiners on 7th and 8th January :—

Mr. Walter Smithers.	Mr. Thomas Graily Hewitt.
„ Chas. Edwin Nuthall.*	„ Arthur Gill.
„ Henry Thomas Pease.	„ Edward Whitley Baker.*
„ Joseph Smith.	„ William James Moses.
„ Thomas Williams.	„ Benjamin Checkley.
„ William Robert Bull.*	„ Hugh Massy Singleton.*
„ Richard Wellington Raymond.*	„ Edward James Richardson.

* Thus marked passed with Great Credit.

PRESENTATION TO PROFESSOR PRITCHARD.

On October 22nd, under the presidency of the Hon. Montague Mostyn, M.R.C V.S., about a hundred gentlemen, members of the Royal College of Veterinary Surgeons and their friends, met at Anderton's Hotel, Fleet Street, to present to Professor Pritchard, on his resignation of the Professorship of Anatomy at the Royal Veterinary College, a handsome testimonial, consisting of a tea and coffee service, a diamond pendant for Mrs. Pritchard, and a purse of £500.

After dinner and the usual loyal toasts, the Chairman, in an eloquent speech, made the presentation, to which Professor Pritchard returned a hearty and feeling reply.

The toasts of the Ladies, Visitors, Chairman, Treasurer, Secretary, and Committee received due attention.

After dinner a capital selection of music, well rendered by the gentlemen present, helped to pass an enjoyable evening.

Among the visitors were Messrs. R. Eykyn, Falcke, Blackman, Greenway, Maynard, Jarvis, Froud, Willows, Dyer, and Mackey.

The profession was represented by Professors Axe and Steel; Messrs. Boughton, W. Clark, M. Clark, Coleman, Flanagan, G. South, W. South, Oatway, W. Barrow, jun., Chesterman, East, Blake, Davy, F. Spooner, P. Spooner, T. G. Batt, E. E. Batt, H. T. Batt, the Treasurer, H. H. Batt, and the Secretary, Mr. H. D. Gibbings.

ROYAL AGRICULTURAL SOCIETY'S PRIZES.

At the competition which took place for these prizes early in January, Mr. R. Rumboll won the first prize (gold medal and £20), Mr. W. J. Malvern the second prize (silver medal and £10), and Mr. E. J. Johnson the third prize (bronze medal and £10). There were four competitors.

PRIZE FOR THE BEST ORIGINAL PAPER ON THE HORSE DISEASE OF INDIA KNOWN AS "PARAPLEGIA."

The following notification is published in the last *Gazette of India* :—

The Governor-General in Council has been pleased to sanction a prize of rupees 200 for the best original paper upon the disease of the horse commonly known in India and Burmah as "Kumree" or "Windstroke," and technically known as "Paraplegia."

The following are the conditions for the guidance of intending competitors :—

1. Competition to be open.
2. The prize essay to become the property of Government.
3. Each paper to bear the "*nom de plume*" only of the author, who will place his name and address in a sealed envelope with his "*nom de plume*" written thereon.
4. Papers to reach the Office of the Principal Veterinary Surgeon in India, Simla, by the 1st October, 1881.
5. Besides discussing the geographical distribution of "Paraplegia," its character, nature, causes, symptoms, terminations, *post-mortem* appearances, pathological anatomy, immunity, mortality, curative and preventive measures, the attention of competitors is specially directed to the consideration of local influences, altitude, climate, seasons and their changes, particularly in connection with their influences upon vegetation, grass and grain, forages especially.

Proceedings of Veterinary Medical Societies, etc.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

THE usual quarterly meeting of the above was held at the Blackfriars Hotel, Manchester, on Friday, December 17th, 1880. Wm. Dacre, Esq., President, in the chair.

Present—T. A. Dollar, London; Messrs. C. Stephenson and G. Elphick, of Newcastle-on-Tyne; Messrs. P. Taylor, T. Greaves, R. Reynolds, W. Whittle, C. W. Elam, W. Woods, G. Darwell, J. B. Polding, A. Briggs, J. Bunnell, J. B. Wolstenholme, E. Faulkner, A. Lawson, L. Pallin, W. Leather, J. Lambert, T. Hopkin, A. Prescott, W. A. Taylor, and the Secretary.

The minutes of the last meeting were read and confirmed. The SECRETARY read a letter from Lieut.-Gen. Sir F. Fitzwygram, Bart., acknowledging with thanks the honour in electing him an honorary associate of this society.

Letters were received from Messrs. S. F. Fallding, A. Darwell, M. Naylor, and D. Dudgeon regretting their inability to attend the meeting.

Mr. W. WHITTLE nominated, as member of this Association, Mr. C. W. Elam, of Liverpool.

The SECRETARY then read the report of the Committee on the "Penal Act."

In petitioning the Council of the Royal College of Veterinary Surgeons to make application to Parliament for a Penal Act, the Committee respectfully suggest the following reasons as the most important in justification of the appeal.

Firstly, *On the grounds of equity and precedent.* The Charter granted to the profession in the year 1844 provides "That the veterinary art as practised by the members of the said body politic and corporate, shall be henceforth deemed and taken to be and recognised as a profession, and that the members of the said body politic and corporate, solely and exclusively of all other persons whomsoever, shall be deemed and taken and recognised to be members of the said profession, or professors of the said art, and shall be individually known and distinguished by the name or title of Veterinary Surgeons."

This declaration clearly sets forth that members of the body corporate have sole and exclusive right to the title of veterinary surgeon, but nowhere, either in the Charter of 1844, or in any subsequent supplemental charter, is there any provision made to render the usurpation of the title of veterinary surgeon by unqualified persons a penal offence.

Inasmuch as the sole right to the said title is granted to members of the

profession, the Committee respectfully urge that, in common fairness, Parliament ought to give the profession power whereby the assumption of the title veterinary surgeon, or veterinary in any form whatsoever, by unqualified persons may be prevented.

The obtainment of the diploma of the Royal College of Veterinary Surgeons entails a long period of study, and a considerable expenditure of money, in addition to undergoing several examinations, the Committee therefore consider it a great grievance that illiterate men, and others possessing not the least qualification, can and do style themselves veterinary surgeons, to the detriment of the scientific and moral reputation of the profession, and that this pilfering of the title is unpunishable by law.

As a precedent, the Committee cite the Medical Act of 1858. Under this Act any person wilfully and falsely making use of the title of a physician or surgeon of any description, implying that he is a duly qualified and registered medical practitioner, shall, upon a summary conviction for any such offence, pay a sum not exceeding £20. It is an Act similar to this that the profession desires at the hands of the Legislature.

Secondly, *On the ground of protection to the public.* It would be useless to assert that a Penal Act would prevent certain persons of the public from employing unqualified men, but it would be the means of placing the general public in possession of the knowledge as to whether they were or were not employing legally qualified practitioners.

Thirdly, *On the ground of humanity to animals.* This reason to some may appear trivial. Instances of malpractice on the part of unqualified persons, resulting in the loss of valuable animals, have been recorded, as have also instances of the infliction of unnecessary pain in the performance of ordinary operations.

The Committee are unanimous in the opinion that, before going to Parliament, the feeling of the entire profession ought to be sounded, as internal dissension would be more likely to render the appeal unsuccessful than opposition from without. To this end they recommend the agitation and discussion of the subject at the meetings of the various veterinary medical associations, the petitioning of the Council of the Royal College of Veterinary Surgeons, the interviewing of members of Parliament by deputations of veterinary surgeons, and the adoption of any other means by which it can be shown that the profession is alive to its own interests.

In drawing up the above report, the Committee were actuated by the desire to be brief; they consequently feel that many points have been untouched, notably the one as to the extent it is desirable and advisable to ask for the Act to be retrospective. This will require serious consideration.

Mr. J. WOODROFFE HILL, of Wolverhampton, then read an interesting and lengthy paper, termed "Observations on Health, Disease, and Lameness," the discussion of which was adjourned until the next quarterly meeting. A cordial vote of thanks was unanimously accorded Mr. Hill for his admirable paper.

Mr. CLEMENT STEPHENSON, of Newcastle-on-Tyne, then read a paper upon "The Veterinary Topics of the Day"—for particulars of which see VETERINARY JOURNAL, Nos. January and February, 1881—as read before the North of England Veterinary Medical Association, after which a very animated discussion arose, Mr. Stephenson being almost alone in his opinion with respect to the proposed Penal Act. All members and friends considered that the Act was very necessary, and (if obtained) would be of great benefit to the public and the veterinary profession generally, if properly carried out.

A cordial vote of thanks was awarded Mr. Stephenson for his kindness in coming so far to read his paper before this society.

Mr. GREAVES proposed, and Mr. DOLLAR seconded the resolution, "That Mr. Peter Taylor be nominated as a candidate for re-election as a member of Council of the Royal College of Veterinary Surgeons to represent this Association." Carried most unanimously.

Election of Officers for the Ensuing Year.

Mr. W. A. TAYLOR proposed, and Mr. GREAVES seconded Mr. Alexander Lawson as President. Carried.

Mr. T. HOPKIN proposed, and Mr. J. B. WOLSTENHOLME seconded Mr. E. Faulkner as Treasurer. Carried. Mr. Samuel Locke was re-elected Secretary. Messrs. W. Dacre, T. Hopkin, and W. A. Taylor were elected Vice-Presidents.

A unanimous vote of thanks to the retiring office-bearers closed the proceedings. SAMUEL LOCKE, *Hon. Sec.*

SCOTTISH METROPOLITAN VETERINARY MEDICAL ASSOCIATION.

THE annual meeting of this Association was held last week in the London Hotel, Edinburgh, when the proceedings were of more than ordinary interest, by reason of a presentation and complimentary dinner to Mr. Robertson, of Kelso, on the occasion of his appointment to the chair of Horse Pathology in the Royal College, London. At the business meeting, which preceded the dinner and presentation, the chair was occupied by Professor Baird, of the Clyde Street College, and there was a fair attendance.

Election of Office-Bearers.

Mr. Edward Rutherford was elected a member of the Association. Professor M'Fadyean, Edinburgh, who has been Secretary of the Association for some years, was elected President of the Association for the current year; Mr. R. Rutherford, Edinburgh; Mr. Black, Howgate; and Mr. Dalling, Bathgate, as Vice-Presidents; and Mr. John Young, East Calder, as Secretary and Treasurer.

Proposed Congress of Veterinary Surgeons.

Professor WALLEY, who acted as Secretary in the absence, from illness, of Professor M'Fadyean, read a communication from Professor Steele, of London, in reference to a proposed congress of British Veterinary Surgeons, in order to consider matters of professional and public interest, such as the examination of horses as to soundness, veterinary empiricism, professional etiquette, and the diseases of the lower animals in their relation to the health of the community.

Mr. A. ROBINSON, Greenock, as a member of the originating committee, explained the views of the gentlemen who had the matter in hand, and expressed the hope that when it was sufficiently matured they would obtain every assistance from the members of this Association.

Mr. C. CUNNINGHAM, Slateford, asked if it was intended to confine the congress to Great Britain, or to invite Continental veterinary surgeons to attend it; if the latter, he thought the matters proposed for discussion were not of sufficient importance to induce their attendance.

Messrs. R. RUTHERFORD, BAIRD, and WALLEY approved of the idea, and individually promised their support, the latter stating that he would give notice of a motion on the subject at their next meeting, when it had received more mature consideration, and hoped this would for the present meet the views of Mr. Robinson and those who were working with him.

Mr. Robinson acquiesced in the suggestion, and thanked the members for their promise of support.

Discussion on a Variety of Subjects.

Professor WALLEY placed upon the table for inspection his new compound ecraseur, bistoury, forceps, etc., objects of interest which excited a good deal of attention and admiration. Professor Walley thereafter exhibited to the members—(1) specimens of *ergoted rye-grass* which he had gathered on Leith Links a month previously, and remarked that the matter had attained some importance of late in reference to "Louping-ill" in sheep, of which disease it was supposed by some to be a cause. Without entering into the general question, he expressed the opinion that the conclusions which had been arrived at by one or two investigators were not borne out by facts, nor even by theories, to a sufficient extent to enable us to accept them without considerable reservation. It was not, he observed, usual to see much ergot after such a summer as that of 1880, and he should watch with interest the effects of the winter storms upon the grass. (2) A number of beautiful specimens of *salivary concretions* from the parotid duct of a horse. Some of these were as large as a walnut and were only a few of a very large number. They were presented to Professor Walley by the Messrs. Mavor, of London.

Professor WALLEY, in the absence of the President, then opened the adjourned discussion on Rheumatism. Time, he said, would not permit him to take a very extended view of the matter, but he would touch upon one or two important points in connection with it; and first, with regard to its pathology, he might remark that in spite of all the investigations which had been patiently and laboriously made, we did not appear to be able to gain any true insight into its nature. Without being able to suggest one more satisfactory or probable, he could not unreservedly accept the lactic acid theory. In dairy cattle and kennel dogs he thought that the system of feeding adopted, and the absence of any stimulus to functional activity in the secretory organs had much to do with its causation. He also observed that in cows the disease in its acute form was very apt, finally, to become localised in the laminæ of the fore feet, causing intense suffering—which remedial measures seemed to have very little power of relieving—and ultimately attacking the heart. Second, he thought that hereditary influences were not taken sufficiently into consideration by practitioners and breeders, and cited instances of several families of horses which were very subject to the disease, developing in one or two cases congenitally, and in one family, primarily or secondarily, establishing itself in one of the stifle joints. He illustrated this by exhibiting the stifle joint of one of the members of this family, the specimen presenting in a marked manner the usual characteristics of Chronic Rheumatic Arthritis. The pathological changes produced in Bursæ was also well illustrated by a specimen of the bursa of the flexor pedis perforans and perforatus of the fore limb of a horse. Third, with regard to the treatment of Rheumatism, as the President in his paper only touched pointedly upon the employment of salicylic acid or salicylates, he should confine his remarks to these remedies. Professor Walley stated that he some time ago placed on record the successful treatment of a case of sub-acute Rheumatism by salicylate of soda. He had recently treated a similar case with equal success with the same preparation, combining it (as there was some debility) with sulphate of iron.

Mr. A. ROBINSON gave the history of a very intractable case which had come under his notice, and in which the salicylic treatment had proved utterly inefficient, the horse ultimately dying very suddenly, *post-mortem* examination showing the heart to be in a condition of rigid contraction. But in answer to Professor Walley, he stated that no pathological changes

were detectable in it or its covering, and he attributed death solely to cardiac spasm.

Professor ROBERTSON said his experience of salicylic acid did not favour its employment in the treatment of Rheumatism. He had frequently seen greater benefits derived in such cases from simple bi-carbonate of potash given in large doses, and he observed that in very many cases of an acute character cardiac complications ensued, in reference to which Professor Walley called to the remembrance of the members of the Association a case in a young horse which he brought before their notice some years ago, where the disease terminated in Rheumatic Endocarditis, with perforation of the semilunar valves. In Professor Robertson's experience the affection attacked indifferently the whole of the cardiac structures and the pericardium.

At the termination of the discussion, Professor BAIRD, by way of illustrating the amount of suffering and disease animals sometimes withstood, exhibited a piece of iron wire, or skewer, about five inches long, which he extracted a few days previously from an abscess in the abdominal muscles of a dog, and which, from the history of the case, he was quite sure had been in the body for a period of many months. The animal from which the skewer was successfully extracted—a pointer valued at £40—is now quite well. The operation was performed by simply holding the animal, without any drug being administered. The skewer is believed to have been swallowed with a piece of meat.

A vote of thanks to the Chairman having been passed, on the motion of Professor Walley, the business meeting terminated.

Dinner and Presentation.

About thirty gentlemen afterwards sat down to dinner. By request of the President, Mr. Conochie, Selkirk, whose unavoidable absence through illness was regretted, the chair was taken by Professor Walley, among the others present being Professors Williams and Baird, Edinburgh; Messrs, Bell, Carlisle; A. Robinson, jun., Greenock; Macfarlane, Greenock; Potts, Wigtown; Robson, Penrith; Waugh, Stirling; Hepburn, Coldstream; Cameron, Berwick; Boyd, Melrose; Walling, Bathgate; Chas. Rutherford, 21st Hussars; Cunningham, Slateford; R. Rutherford, Edinburgh; Black, Howgate; Kirk, Edinburgh; and Macgregor, Crieff.

The usual loyal and patriotic toasts were proposed by the CHAIRMAN, and duly honoured, Mr. C. RUTHERFORD responding for the "Army, Navy, and Volunteers."

The CHAIRMAN, in giving the toast of the evening, accompanied by the presentation of a beautifully illuminated address from the members of the Association, said, In losing Mr. Robertson, they, as an association, were losing one of their best members, one who had assisted them on every occasion, and to whom they had been indebted for many valuable papers on scientific subjects, always clearly expressed and to the point, so that they could not fail to profit by them. (Hear, hear.) But though his translation involved a loss not only to them but also to the district of Kelso, yet the profession must gain by the appointment of Mr. Robertson to fill an important post for which he was eminently fitted by a long and varied practical experience. (Applause.) His wide practical knowledge, combined with his scientific attainments, could not fail to exercise a telling effect on the students in his discharge of the duties of examiner. While to their Examining Board he would be a loss, yet his close connection with the Royal College, and his position as a member of the Council, would enable him to attend the examinations oftener than before, and his common sense, united with practical skill, would be of incalculable advantage in dealing with the

subjects brought before the Board. To come nearer home, he was sure they would agree that no member of the profession was more deserving of honour than their departing guest. In presenting the testimonial from members of that Association, he had much pleasure in conveying to Mr. Robertson the heartfelt congratulations of every member of the Association on his attaining to a distinguished position in the profession. They knew what energy and strength of mind he possessed; they knew that as a Borderer he had vigorous health and a good constitution, and in going to fulfil large and important duties he had their entire sympathy, with best wishes for his future success. The intrinsic value of the testimonial was of secondary importance. It expressed more than mere silver and gold, and would in after years be a reminder of the hearty goodwill cherished by friends across the border. The words of the testimonial, beautifully illuminated in handsome gilt frame, ran as follows :—"To William Robertson, Esq., Veterinary Surgeon, Fellow of the Royal College of Veterinary Surgeons : This testimonial is presented on the occasion of his leaving Kelso to fill the chair of Horse Pathology in the Royal Veterinary College, London, by the members of the Scottish Metropolitan Veterinary Medical Association, in acknowledgment of the high appreciation which they entertain of his professional abilities, his great scientific attainments, and his special qualifications and services as a member of the Association, of his uprightness, earnestness, and sincerity of character, and of his brotherly and kindly bearing towards his professional brethren under all circumstances. While rejoicing that Mr. Robertson has been called upon to occupy a position so eminently useful and so highly honourable, and one which his great experience so competently qualifies him to fill, the subscribers, on behalf of the members of this Association, desire to express their regret that his elevation to such a distinguished position necessitates his removal from their midst. Nevertheless, they earnestly hope that health and strength may long be given him to perform the duties of his office with pleasure and benefit to himself and those who may be associated with him in his professional life, either as colleagues or as students. (Signed) W. D. Conochie, President ; Jno. Borthwick and John Young, Vice-Presidents ; C. Cunningham, Thomas Walley ; and J. C. M'Fadyean, Secretary." Professor Walley, after reading the inscription, handed the testimonial to Professor Robertson amid applause.

Professor ROBERTSON, in the course of a feeling and appropriate reply, alluded to the mixed feelings with which he regarded the meeting. It was a severance or breaking of bonds and links that had existed for years. It was also, as Professor Walley had put it, a token of sympathy, a token of their hearty good wishes. For more than a quarter of a century he had lived the ordinary every-day life of country veterinary practitioner, and he knew the bright as well as the dark sides, the joys and the sorrows, the trials and the temptations of a country practitioner, with whom he could sympathize in all of these things. The change from the life of a country practitioner to that of a London teacher he felt to be a great one. Yet with a certain amount of determination for the conscientious discharge of duty, with a thorough appreciation of the extent of philosophy that lies in the saying, "Where there's a will there's a way," he would strive to throw his energies into the work so as to execute that work well. (Applause.) He would always look back with feelings of pleasure on their meeting that evening. His connection with the Association had throughout been to him most agreeable as well as profitable. Such associations were calculated to be of great benefit, by breaking up that isolation in which the country practitioner was too often placed. By contact with their fellows, all of them discovered that they had still much to learn ; and all must confess that the meetings of such associations were attended with great mutual benefits. (Hear, hear.) Even sup-

posing they received no new idea or wrinkle which would be of benefit to them, there was the further advantage derived by cultivating the sympathies of their brother practitioners. (Hear, hear.) They had known each other far too little, and he was certain that from such gatherings much profit had been and would still be obtained. It was little that one man could achieve in any department of knowledge. They were all indebted to each other as well as to those who had lived and gone before. Therefore, considering the immense advantages to be reaped, he thought such meetings should be cultivated in the future to a greater extent than they had been in the past. (Hear, hear.) He repeated his sincere thanks for the very kind expression of their sympathy and goodwill, which he could never forget, and which, in the form of this testimonial, he would always treasure up and highly esteem. (Applause.)

Mr. BELL gave "The Royal College of Veterinary Surgeons and Examiners," to which Mr. ROBINSON replied.

Professor WILLIAMS, of the New Edinburgh Veterinary College, gave "The Highland and Agricultural Society and its Examiners," and in so doing said that society had been the nurse of the profession in Scotland. As one of the examiners of that society, Mr. Robertson had long since earned distinction. He had thereafter been appointed one of the examiners of the Royal College, and now that he was about to fill a position which they were proud to see him occupy, they could after many years' experience safely say that no man could excel Mr. Robertson as an examiner. (Applause.) His career had been a distinguished one, and high as was the position of a London teacher, to which he had now attained, they hoped that he would end his career by filling a yet higher position. (Hear, hear.)

Mr. CUNNINGHAM, Slateford, replied. Mr. CAMERON, Berwick, proposed "Veterinary Colleges," to which the CHAIRMAN replied. The other toasts were, "Veterinary Medical Associations and the Veterinary Benevolent and Defence Society," and "The Strangers."

NORTH OF ENGLAND VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 52.)

I look upon apprenticeship or pupilage as calculated to do great good. I cannot think that it can do any harm, notwithstanding Professor Walley's statement that practical men make the worse students, and that, in his own case, the time he spent as a pupil was thrown away. We can only become familiar with the peculiarities and habits of animals, both in health and sickness, which is so important to the veterinary surgeon, by close observation, study, and working daily amongst them. Of course, unless a man is fond of animals, he will never take that interest in them that will fit him for the profession; but once having gained this knowledge, I cannot believe that he can be a worse student for it; on the contrary, I think it must assist him.

I think a lad who is destined for the profession cannot begin to learn too soon all he can about animals. By all means let him serve an apprenticeship; let him begin at the bottom of the ladder; if he learns to shoe, or even to groom a horse, all the better; the knowledge is easily carried, and will be of use to him in after years. Encourage him to work amongst, and carefully watch the patients that come under his notice. Let him learn to become a good nurse; tempt him, by dissection and *post-mortem* examinations, to take an interest in and learn the wondrous and beautiful mechanism of his patients. A fair knowledge of anatomy, physiology, chemistry, and botany can be learnt now in all large towns before going to college; but

not by twelve months' compulsory pupilage. The lad himself must have the desire and ambition to learn his profession, and must devote, not one year, but several years to it.

A great drawback I see in Mr. Fleming's motion is, that of compelling the pupilage to be served with a qualified member of the profession, inasmuch as I think it would be very hard to refuse a student, who, from being, say the son or relative of some farrier or horse-shoer, and who, as such, has worked and learned, it may be in the forge by day, and from books at night, all that he possibly could, and who, in addition to having a natural liking for the profession, is ambitious to become a qualified and honourable member of it—I say it would be hard and cruel to compel this man, who, perhaps, with only scant means to begin with, is only able to attend college by careful, nay, pinching economy at home, to pay a premium, and spend the necessary time with a qualified man.

Now I know I shall be found great fault with for this; but I am sure I have given you no fancifully-drawn picture; and my experience is, that when men such as I have described make up their minds to enter the profession, they, as a rule, become able and good members of it.

If a well-matured apprenticeship-clause, containing certain modifications to meet special cases, could be devised and carried out, much good might be done; but I confess that I see so many difficulties in carrying it out, that I think more good could be done by the Council and Examining Board insisting upon a higher practical pass-examination.

I do not blame the schools for the present unsatisfactory state of things. I consider they are just what the Royal College of Veterinary Surgeons has made them. A standard of education was fixed, and, as a natural consequence, the material adapted to meet such a standard has drifted into the profession.

I do not think any hard and fast line can be laid down as to the mode of education. The mental powers and adaptabilities of men are so varied, that it is impossible to bracket them together. Looking back at my college days, I remember men who were earnest, hard workers; yet could never master the details of theory or science; and yet, in after years, proved themselves thoroughly efficient members of the profession. Others seemed to gallop through their work; nothing came wrong to them; their minds could easily grasp hold and handle the most abstruse subjects. A year's pupilage to some men would be ample, while to others it would be no use at all.

At the present time, I am inclined to think that we must look to and throw the onus upon the Council and Examining Board. Let them once determine that the student, before receiving his diploma, shall not only be theoretically, but practically educated; that the practical shall be the pass-examination; and that it shall, in reality, be what it professes to be; and, depend upon it, the schools will find the material and ways and means to meet the demand. Let it be understood that the practical training and examination shall be the chief test of the student's fitness to enter the profession; let it be remembered that his success in practice depends more, at first, on his practical than his theoretical knowledge; and let the examiners apply the same tests that our clients do, and we will soon stand higher in the estimation of the public. This will be a legitimate way to stamp out non-qualified practitioners, and to give every member of the profession a fair start in life.

Whatever scheme may be eventually put into force for the education of the student, must be based on broad and generous principles. The student must be encouraged and led on to master scientific work; but, at the same time, practical knowledge must be insisted on. With brains and application, the standard could not be too high; but we must not forget that the standard might be so placed that many a deserving, yet not very brilliant man, might

be prevented from entering the profession; men who, from their natural inclinations, would become good and useful in their particular sphere; and, certainly, men who would do the profession more credit and less harm than those who know nothing of practice. Let us remember that we are not *all* endowed with the same powers of mind and body. As students, we cannot all attain to the same standard of education; and, in after years, we have not all the same aspirations, aims, and opportunities: some are content and happy in a hard-working country practice; others gradually work themselves forward; and, finally, fill the highest positions in the profession. Every man is, more or less, the architect of his own fortune. It is not the man with the most transcendent abilities that achieves the greatest success; and it is not the student that passes the highest examination that afterwards becomes the most useful veterinary surgeon.

Gentlemen, there is one more subject I wish to draw your attention to, namely, the forge in connection with the profession. I like to call a spade a spade; and I hate sham and false ambition. True ambition is a noble quality; without it, no true success can be gained. I admire that ambition that urges a man on to succeed in whatever he takes in hand; and I believe in the spirit of the lines quoted by Professor Tuson, at the opening of the London College, last month:—

> "If I were a cobbler, I'd make it my pride
> The best of all cobblers to be:
> If I were a tinker, no tinker beside
> Should mend an old kettle like me."

There is no disgrace in honest industry in whatever form it takes. I have no sympathy with those who look upon the forge as derogatory to the profession. I have often been pained to hear men speak in ill-timed, sneering and disparaging terms of it. I have heard it denounced as one great cause why we, as a profession, do not stand higher in the estimation of the public; and I have been told that there is no more reason for a veterinary surgeon to have a forge, than there is for a doctor to keep a boot and shoe shop. Gentlemen, you know as well as I do, that this is all humbug, and hollow, false ambition. You know that a great deal of our work is in connection with the feet of our patients, and that our patients cannot go to the horse-shoer and explain their troubles, as we do to our shoemakers. Who can be so fit and proper to detect and remove the cause of lameness in the beautiful and complicated mechanism of the horse's foot, as a well-educated veterinary surgeon? and what disgrace can follow the removal or prevention of pain given by his supervision or orders?

I look upon the forge as a legitimate addition to the profession; that it is, in fact, part and parcel of the whole. To the young beginner, it forms a nucleus, and materially aids him in establishing a connection. It gives him something to do, something to think about, something to fill up his time and keep him out of the tavern, where so many men have been wrecked. The forge, in connection with our profession, is one of the very best things to do away with the non-qualified practitioner; for, if we have both the veterinary care and shoeing of our client's horses, he will have a poor chance to compete with us.

The forge, also, adds to our income, no small matter to a hard-working veterinary surgeon. No man is more depending on both physical and mental health for success than the veterinary surgeon; and no man runs greater risks of losing them. Health, strength, and the use of all our faculties, are absolutely necessary for the veterinary surgeon to follow his ordinary duties. Why should he, therefore, not make the best use of all his powers? Why use one talent and bury the remainder? Why depend upon the unaided work of

his own hands, when, by a little foresight, he might have a well-conducted forge, that, once established, would go on and add both to his reputation and income?

> "Honour and shame from no condition rise:
> Act well your part, there all the honour lies."

As my object, this evening, is only to open the questions out to you, so as to lead to a free and full discussion of them, I will now leave them in your hands, in the hope that some plan may be devised by which the complaints of want of practical knowledge in the young members of the profession, may soon vanish, and that the day is not far distant when every veterinary surgeon will be held in esteem and respect, both by his clients and the public at large. Let us each and all try to feel and act as though the honour and advancement of the profession depended upon our individual actions and conduct. Life is short. We are all wearing fast away: let us, therefore, determine so to act, that when called away, we may leave the profession better than we found it.

Mr. MULVEY had listened with great pleasure to Mr. Stephenson's very able paper, and agreed with everything with the exception of the penal clause, and he (Mr. Mulvey) did think the profession should have it.

Mr. HUNTING was pleased to listen to the very able and common-sense paper; the matters were very ably discussed, yet some of them would bear another interpretation. The apprenticeship clause, is it better than that taken up by the President of the R.C.V.S.? Thinks it is not; the apprenticeship men did not take the leading part in the profession. It did not follow that a man should be passed into the college because he was a good shoer and had a knowledge of horses; veterinary surgeons should be educated men, but at the same time thoroughly practical.

Mr. ELPHICK questioned whether the R.C.V.S. have the power to impose the pupilage clause; instead of this clause, the students should have a stricter practical examination.

The PRESIDENT agreed with Mr. Stephenson, and did not think the penal clause was necessary; the profession must build up its own reputation without the aid of Acts of Parliament. Quacks to a great extent were dying out, and nearly every farrier educated his own son and made him a member of the college.

Mr. GREAVES said he had come a long way to be present at the meeting, but he did not begrudge the time; he had listened with very great pleasure to this paper, and coincided with Mr. Stephenson in nearly everything. He hoped every word of the paper would be published; he thought a man should always see practice before going to college, if he did not, he got above the routine work; nearly every provincial member was in favour of the three years' apprenticeship clause. Some men would never excel, whether they went to college or saw practice first; every young man should go where there is a forge. Speaking on the penal clause, he thought if the time had not come for it now it never would come, they never had a better chance of obtaining it, and every veterinary surgeon should do his best to ensure the success of it.

Mr. Greaves then read an extract from his paper on the subject.

Mr. A. HUNTER quite agreed with Mr. Stephenson that a spade should be called a spade, and a veterinary surgeon was certainly entitled to be called such and have his name protected.

Mr. GOFTON thought the penal clause should be supported.

After some more discussion, a hearty vote of thanks was accorded to Mr. Stephenson for his very able paper, and it was unanimously resolved that the paper be sent to the *Veterinarian* and the VETERINARY JOURNAL for publication.

G. R. DUDGEON, *Hon. Sec.*

Army Veterinary Department.

Gazette, January 11th.

VETERINARY DEPARTMENT.—Veterinary Surgeon, First Class, H. Dawson has been placed on temporary half-pay, on account of ill-health.

Veterinary Surgeons Findlay (Inniskilling Dragoons), Rutherford, Caldecott, and Duck, have been ordered on active service in the Transvaal.

A misconception appears to exist with regard to the Veterinary Department of the Army, which it is necessary to notice. It is supposed by some that, after the first ten years, if selected for further service, the reappointment is only for another ten years, on the expiry of which the veterinary officer may be sent adrift with a certain lump sum of money, and can make no further claim on the country. This is not the case. If retained after ten years' service, he then comes on the ordinary list as to pay and pension, which is given in the Warrant of 1878—these increasing with length of service. There is no second ten years' engagement.

Obituary.

WE are informed that John Stoddard, M.R.C.V.S., of Richmond, Yorkshire, whose name still appears in the register, has been dead for about twelve years.

R. Rogers, M.R.C.V.S., of Gladesville, is reported as dead. He graduated in 1821.

The death is also recorded of R. Johnstone, M.R.C.V.S., who died at Durban. He was a graduate of 1869.

We much regret having to announce the death, at seventy-five years of age, of Dr. Falke, of Jena, one of the recently-elected Honorary Associates of the Royal College. Dr. Falke was born at Rudolstadt in 1805, and educated at the gymnasium of his native town; he studied veterinary medicine at Dresden, and afterwards at Berlin. In 1829 he became a teacher at the Dresden School, and in 1847 he was appointed lecturer at the Jena Agricultural Institute. Two years later he was elected an extraordinary professor of the Jena University. Falke was a well-known veterinary writer in Germany, and in addition to very many contributions to professional periodicals, he was the author of several esteemed works, among which are the "Handbook of Veterinary Physiology," a treatise on Tympanitis, one on Anthrax, another on Rabies, a work on the "Principles of Comparative Pathology," a "Text-Book on Shoeing," and a "Universal Lexicon of Veterinary Science."

Parliamentary Intelligence.

House of Commons, January 7th.

FOOT-AND-MOUTH DISEASE.

MR. CHAPLIN asked the Vice-president of the Council whether it was true that the recent outbreak of Foot-and-Mouth Disease which had occurred in many parts of England had been traced by the Privy Council to a cargo of foreign animals imported into this country; whether it was increasing or decreasing at the present moment; and what steps the Government had taken or were taking to prevent the further spreading of the disease.

Mr. MUNDELLA: So far as we are aware, this country was free from Foot-and-Mouth Disease from the end of January in last year till the beginning of October. A serious outbreak of this disease occurred in the north of France during the month of September, and very shortly afterwards three cargoes of French animals were landed at Deptford suffering from it. These animals, like all others landed at Deptford, were slaughtered at the wharf, and therefore there was no immediate contact between them and any home stock. Such contact is not, however, necessary for the propagation of the disease, which can be conveyed by persons or animals frequenting the infected premises. Within a few days after the arrival of the diseased cargoes cases of Foot-and-Mouth Disease were reported in a London dairy. It soon spread in the metropolis and the surrounding districts, from which it speedily reached the Eastern Counties. The Privy Council took immediate steps to check the progress of the disease. They ordered their inspectors round the coast to see that all diseased animals should be slaughtered without any delay. They issued a circular to the local authorities, calling their attention to the fact that an outbreak of Foot-and-Mouth Disease was probably impending, and urging them to be on the alert. As the disease began to spread, the Privy Council watched carefully the daily returns, declared infected areas round the infected places, and in order to render the limits of security as wide as possible, they comprised large districts—in most cases whole counties—in the infected area. Under these regulations the whole of the Eastern Counties, together with Northampton, Huntingdon, Derby, Surrey, Kent, and Sussex were now infected areas. It was satisfactory to note that in these districts the spread of disease has been checked when the regulations have come into full force, in a manner in which it was never checked before, and the Privy Council have been thereby encouraged to anticipate the outbreak of the disease, and to endeavour to save those parts of the country which are at present unaffected. Under the regulations hitherto existing we were unable to deal with the disease until it had appeared in a locality, and possibly after it had been disseminated through the district. We have now determined to try whether, by a sharp measure limited to a few weeks' duration, we cannot arrest the disease and finally exterminate it. By an order passed last week we have prohibited for a period of six weeks the holding of any fair, or market, or public sale of animals throughout England, except by license of the local authority, and then only for fat stock for slaughter. No sale of store stock to be permitted except by license of the Privy Council. By another order, all animals sold in an infected area by public sale must be slaughtered within that area. A third and most important order prohibits for six weeks the movement alive out of the metropolis of animals that have been exposed for sale in the Metropolitan Market. No such stringent measures had been adopted before in dealing with Foot-and-Mouth Disease, but it was yet too early to give a decided opinion as to their ultimate success.

January 18th.

In reply to Mr. COCHRANE PATRICK,

Mr. MUNDELLA stated that the Government had taken the most effective means to prevent the spread of the Foot-and-Mouth Disease, not only in Scotland, but in many other parts of the country. The severe restrictions which came into operation yesterday would, he believed, prevent the spread of the disease. Up to the present time there had been no case of Foot-and-Mouth Disease either in Scotland or the four northern counties of England.

In reply to Mr. PELL,

Mr. MUNDELLA said he was happy to state that there had been no case of Foot-and-Mouth Disease in Ireland for two years.

Notes and News.

TREATMENT OF FOOT-AND-MOUTH DISEASE BY SALICYLIC ACID.—The Duke of Brunswick has of late successfully combated the ravages of this much-dreaded enemy on his estate at Stampen, near Oels, in Prussian Silesia, by treatment with salicylic acid, the well-known antiseptic. Instead of several weeks being required to effect a cure with the remedies hitherto employed, truly surprising results have been brought about within a few days by this new treatment. A solution of the acid is prepared by pouring some hot water on about three tablespoonfuls of salicylic acid in an earthen vessel, and adding lukewarm water to make up a gallon. The mouth and feet of the diseased animal should be carefully washed three times a day with this liquid, and the tops of the hoofs well powdered with the dry acid after each ablution. The effect will, moreover, be greatly increased by salicylating the drinking-water of the beasts, by the addition of two tablespoonfuls of the acid dissolved in hot water. During the above treatment great attention must be paid to the perfect cleanliness of the stables or sheds. The dung must be saturated with salicylic acid solution, to prevent further infection, for it is chiefly in the dung that the germs of the disease are to be found. The above treatment has likewise given most satisfactory results in Alsace.

A CURIOUS FACT IN ANIMAL REPRODUCTION.—A curious fact has recently occurred which throws some light on similar cases reported of the human species, but which have been received with considerable doubt by some authorities. The *Journal de Médecine Vétérinaire de Lyons* states that last April, on a farm in the department of Isère, a mare about ten years old gave birth, at full time, to a foal. Soon after the throes of parturition re-commenced, and with assistance another foal was brought into the world. Twin foals are sufficiently rare to cause astonishment at any time, but the astonishment of the attendants was changed into amazement when they discovered that it was not a horse foal they had taken from the mare, but an unmistakable mule. The little creature, unfortunately, and as is generally the case with twins in solipeds, did not long survive its birth. The veterinary surgeon who was subsequently called in, made inquiry into the case, and as a result he gives the following explanation :—It is a very common practice in Dauphiné to present the mare, when in œstrum, twice to the stallion, and at a brief interval, believing that fecundation is more certain by this procedure. But, as it seldom happens that the villagers can obtain the services of a stallion which can serve the mare twice with only a few minutes between, or yet a second stallion, and as male asses are by no means scarce, they oftentimes employ one of the latter to succeed the horse. And this is what happened with the mare alluded to. The case is not absolutely unique, even in equine physiology, however, for Fleming, in his "Text-book of Veterinary Obstetrics" (p. 152), gives six similar instances, and one in which a mare, put first to an English stallion, and soon after to a Barb, produced twin foals—one resembling the first, and the other the second stallion. It may be noted that, of all the domestic animals, the mare is the least disposed to multiparity. —*Lancet.*

FLIES ON HORSES.—If carbolic acid soap is rubbed on the neck and legs of a horse, he will not be bothered by flies. The strong odour of the soap drives these miserable horse tormenters away ; and besides, the soap gives the animal's coat a fine polish. Take a dry cake of soap and rub on after grooming.

TRICHINOSIS.—According to a recent report to the Sanitary Committee of Massachusetts, it appears that of 2,701 pigs examined during five months, no

less than 154, or nearly 6 per cent., contained trichinæ. The animals came from different and distant regions, but the majority were from the western States. The same report affirms that rats are affected with Trichinosis at Boston to a much larger extent than in Germany. Of fifty-one rats caught in a Boston slaughter-house thirty presented trichinæ. On the other hand, twenty-eight fowls fed in the establishment were found to be healthy. Forty rats taken in another large slaughter-house all contained trichinæ; but of sixty found in different stables only six were thus affected. In France little consideration has, until lately, been given to the danger of trichinæ in imported pork. At Lyons, however, inspection has been commenced, and has quickly borne fruit. An enormous consignment of lard, amounting, it is said, to 120 tons, was lately received at Lyons from New York. Of fifty specimens examined immediately after arrival, three were found to be infested with trichinæ. At Barcelona six cases of death from Trichinosis have occurred in three months.—*Lancet.*

Correspondence, etc.

THE PROPOSED PENAL ACT OF PARLIAMENT.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—It is truly refreshing to all earnest students of veterinary science and practice to learn that you are lending the weight of your powerful influence with a view to obtain legislative protection for duly qualified veterinary practitioners against the impudent pretensions and effrontery of illiterate men, who, neither by education nor manners, can lay claim to the slightest qualification for the position in society they attempt to fill.

It is also a matter for sincere congratulation that the importance of veterinary practice is recognised by so influential an organ as the *Lancet*, and the thanks of the veterinary profession are certainly due to its editor for the able article which appeared in a recent number, that not only advocated the desirability of obtaining the enactment of the Penal Bill in reference to the veterinary profession, but also urged upon the medical profession the importance of giving such a step its warm support.

It is acknowledged on all sides, by those, even, who like myself know you, sir, only by repute, that whatever you take in hand is carried through with characteristic promptness and determination; and it is devoutly to be hoped that the present will be no exception to the rule; but, sir, I am constrained to state that, in my opinion, those who are to reap the benefit of such an effort, should, to the best of their ability, afford you substantial and unflinching support in the work; it certainly would appear to be unpardonable neglect of duty to stand by and see you exerting yourself is so important an undertaking without lending a hand.

For me, as a student of the Royal Veterinary College, to address you on such a subject, and in such terms, will, no doubt, be considered in some quarters to be the very height of presumption; and when the suggestion which is to follow appears, to suggest which gave rise in the first place to the idea of writing at all upon this subject, probably there will be no bounds to indignation. But, sir, I have not the fear of man before my eyes, consequently such anticipations do not disturb my equanimity of mind; therefore I address myself to the point.

As a student, and one who hopes ultimately to stand shoulder to shoulder with a goodly number of collegiate contemporaries in the prosecution and development of veterinary science, men whom I and any one else may be

proud to refer to as choice friends, and who, I venture to anticipate, will earn for themselves distinguished positions in the profession, I should like to see a meeting of the students of the Royal Veterinary College held to support the advocacy of this important cause; but before steps could be taken in this direction, it is necessary to learn whether such a movement would meet with your approval. My belief is that it would, or I should not have ventured the suggestion; it seems to me that resolutions passed at a well-attended meeting of students would carry as much weight with the Government, proportionally, as similar resolutions passed at a meeting of any particular county or district; and especially would this be the case if you would lend your personal countenance to such a procedure.

I would add that it is desirable no time should be lost if such a meeting is to take effect, because a goodly number now in the college, who, I doubt not, would give their earnest adhesion to the movement, will be presenting themselves for final examination in April next, after which they will be spread far and wide over the kingdom, and those remaining at the college would be left to prosecute the work without the advantage of their united support as students.

I have purposely refrained from any suggestion as to the professors being asked to take part in such a meeting, because I do not know that they would ALL care to do so, and also because I feel the students are capable of walking out of leading-strings; but I take upon myself to say, that judging from past experience, I have no doubt whatever that if the students thought it desirable to seek such co-operation, they may certainly rely upon the countenance of our very able and much-esteemed Lecturer and Demonstrator of Anatomy.

Apologising for addressing you at such length,

I am, dear sir,

Your obedient servant,

"VIS UNITA FORTIOR."

[The co-operation of our young friends, who will benefit most from the effect of the Bill, should it become law, will be most heartily received.]

CONTAGIOUS PLEURO-PNEUMONIA.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—Having had thirteen years' experience as an inspector, independent of numerous *post-mortem* examinations made previous to the appointment, I can fully endorse Mr. Rutherford's remarks concerning Contagious Pleuro-pneumonia. Two of the chief faults in giving professional evidence are *hesitation* and *exaggeration*, faults which the public, as well as justices, advocates, and juries, are not slow to perceive. "We are bound to do the best we can for our clients," was a remark once made to me by an M.R.C.V.S., after a trial, in reply to my expression of surprise at a statement he had made in the witness-box, and which was at direct variance with the facts of the case. And this, I fear, is too often met with, and does, as Mr. Rutherford's friend remarks, "our profession an injury." Making out a case, or endeavouring to do so, is a lawyer's province, not a veterinary surgeon's; and unless we can consistently go into the witness-box, for the honour of our college and the maintenance of public appreciation, we should refrain from veterinary jurisprudence. I have recently had experience of Mr. Stephenson's powers of speech, and I can readily imagine he would never hesitate to speak his mind, and make strong his argument. But let us hope, for the reputation of our pathological knowledge, in the case under discussion, his evidence has been mis-reported.

Yours truly,

Wolverhampton, *Jan. 4th*, 1881. J. WOODROFFE HILL.

To the Editor of the VETERINARY JOURNAL.

SIR,—I sincerely hope, for the credit of the veterinary profession in the North of England, that the evidence to which Mr. Rutherford alludes has not been correctly recorded. If it is, then all I can say is that the statements made with regard to the pathological anatomy of Pleuro-pneumonia and the constant localisation of the lesions in one lung, are a serious reflection on the professional knowledge of those who made them, and reveal a serious danger attending veterinary evidence in courts of law. The gravest—aye, irreparable wrong, may be inflicted upon a member of the profession who is perfectly in the right, by another who, through ignorance or malice—perhaps both, with much vanity, but who has plenty of what is vulgarly called "brass" to exhibit in the witness-box, goes on the opposite side.

The truths inculcated in your admirable paper on the "Responsibilities of Veterinary Surgeons," read at Manchester last October or November twelve months, should be laid to heart by every well-wisher of the profession, and acted upon. Nothing can be more lamentable than the figure veterinary surgeons often make in courts of justice. It is well to publish these jurisprudence cases, in order that we may know whom to trust and distrust in the matter of professional knowledge, evidence, and conduct.

January 3rd. I am, etc., "SPECTATOR."

ONE-SIDED PLEURO-PNEUMONIA.

To the Editor of the VETERINARY JOURNAL.

SIR,—Referring to Mr. Rutherford's letter on above subject, I have simply to say that, as a rule, I have only found the disease in one lung, and that it is quite the exception to find both lungs affected.

Without going through all my *post-mortem* reports, I think I shall be pretty near correct in saying that double Pleuro-pneumonia is only found to the extent of five per cent., and in those cases we do not find *the whole* of both lungs affected.

Thanks to the working of the "Contagious Diseases (Animals) Act," neither Mr. Rutherford nor myself are likely to make many more Pleuro-pneumonia *post-mortem* examinations. Yours truly,

Newcastle, *7th January*, 1881. C. STEPHENSON.

THE TEMPERATURE OF CATTLE.

To the Editor of the VETERINARY JOURNAL.

SIR,—Much has been written of late in your Journal regarding the incapacity of recently-qualified veterinary surgeons, and perhaps justly so. But what are we to think of qualified men, who "have had a lifetime of experience of disease," saying in open court that a temperature of 102° is an indication of Pleuro-pneumonia in cattle, and that from 98° to 100° is the normal temperature of those animals? I hasten to contradict these assertions, as the normal temperature of the adult bovine family is from 100° to 102°, and I distinctly maintain that no healthy cow will register as low as 98°. Having made the thermometer a special study, as an aid to diagnosing diseases of horses and cattle, I, of necessity, had to repeatedly take the temperature of healthy animals, as well as those that were suffering from disease. I am sure any veterinary practitioner who has had opportunities of studying and practising cattle pathology will bear me out in these remarks.

I am, sir, yours assiduously,

Glanton, near Alnwick, *December 2nd*, 1880. WM. MARSHALL.

UNQUALIFIED INSPECTORS UNDER THE CONTAGIOUS DISEASES (ANIMALS) ACT.

SIR,—Your Irish correspondent, "A Sufferer," may perhaps derive some comfort from knowing that I am in exactly the same position in England. There, in the populous town and district of Hove, Brighton, I am overridden by an unqualified practitioner, and though I have made several applications to the authorities, I am told that they see no occasion for a change. Will they continue to keep men in appointments as veterinary surgeons, I wonder, when, by-and-by, these men are not allowed to use the title?

Your correspondent need not think this among the grievances peculiar to the sister island. There is no more wealthy or enlightened community than that among which I have been living for three years and a half, though without the coveted appointment. I am sir, yours, etc.,

Hove, Brighton, *January 3rd*, 1881. HAROLD LEENEY.

[Surely the Veterinary Department of the Privy Council should see to this abuse. Does it receive reports from unqualified men as if they were qualified? and does it accept their designation of themselves as veterinary surgeons, when it should be aware they are not? Has our correspondent represented the grievance to this Department? If not, we would recommend him to do so.]

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—I read with interest in your issue of the present month the letter of "Sufferer," headed "Veterinary Grievance in Ireland," and the more especially as the same case applies to myself. I am a resident in a county town in Ireland, with no other qualified veterinary surgeon in the same town, and yet I am refused the appointment of "Veterinary Inspector" under the Contagious Diseases (Animals') Act, and an *unqualified* man is made the inspector.

Now, sir, I am sure you will justly say this is a serious grievance that should not be allowed to exist, as it is as unfair to the public as it is to any veterinary surgeon. It likewise (as your correspondent rightly says) casts a great *slur* on the profession. The public, seeing qualified men refused such appointments, they naturally say—"Surely Government have little faith in veterinary science and education, or they would not allow such a state of things to exist."

I will not, sir, trouble you farther, or take up space in your valuable Journal; but I would, in conclusion, say that if you would use your weighty influence in furthering the end desired, you would be advancing the interests of our profession, and removing—as you have often done before—a very great grievance. I am, sir, yours respectfully,

January 12th, 1881. "ANOTHER SUFFERER."

A CORRECTION.

To the Editor of the VETERINARY JOURNAL.

SIR,—As my name has appeared in your last issue, in connection with a paper by Mr. Burke (a student of the Edinburgh Veterinary College, who spent a few weeks with me last summer, at the special wish of Professor Walley, to see practice) which rather reflects on my judgment, as that gentleman would wish to make it appear, and on his own superior merits, I beg to venture a few remarks.

It is no new thing that men become elated with a little learning, and therefore I can quite overlook it in Mr. Burke; but as his memory has not been faithful in all the details, I will state the case, and hope that, with added experience, he will gain in *faithful* representation, and not in mere verbosity.

An aged favourite pony sprained the suspensory ligament, involving the fetlock joint, and was relieved time after time, in the intervals carrying his owner, a man of sixteen stone, haymaking, etc.

After consultation with his brother-in-law, Mr. Butler, M.R.C.V.S., it was decided to fire the joint. After a lapse of some time, the lameness assumed a more aggravated form, from degeneration of the tissues of the joint, and as a last resource I divided the nerves, on the understanding that he was to be shot unless the result proved favourable. I never heard of the *shoulder* lameness, and it certainly never was blistered.

As regards the *post-mortem* examination, perhaps Mr. Burke will have some lively recollection of my *horror* at his having frizzled up the lower part of the limb, in his endeavour to remove the hoof, leaving little but charred bones, and making dis-articulation of them impossible, which made me satirically suggest that he should take the specimen as a contribution to the Edinburgh Museum!

As we had already used my microscope in the detection of bacteria, I cannot understand his footnote on that head.

And as far as his comments on the cysts in the spleen of the horse are concerned, a little more observation in the abattoir will show him more cases than have ever entered his imagination.

I remain, sir, your obedient servant,

Warwick, *January 20th.* ——— EDWARD STANLEY.

THE VETERINARY PROFESSION IN IRELAND.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—I intended taking up the subject of an "Irish Veterinary College for Dublin," but having written several letters upon that question to the *Irish Sportsman* some years ago, when it was then mooted and advocated by the editor of that paper (copy of which I send this post), I thought I had said enough. With regard to your remarks published in the *Irish Times*, I may, without hesitation, declare that you have advanced nothing but *truth*, and you might have gone much further. I flatter myself that I have had as great opportunities of observing the state of things as to veterinary medical practitioners as any member of the profession in this country, and I have long ago come to the conclusion that we are far too *many*, at the present time, when *circumstances* are taken into consideration. There used to be two establishments in this city, neither of which gave to the proprietor any more than an existence. Now there are *four*—we live, and, I believe, pay our way, *somehow*—but, judging from sheriffs' and other sales, I don't believe we are in a flourishing condition. I have tried every means in my power to induce agriculturists to employ us in the treatment of cattle diseases, but without success. As a rule, a man is called at the moment of dissolution, after a knowledgeable man has administered some half-stone or more of the universal remedy—Epsom salts and other articles. I have tried the *club-doctor principles*, as well as other schemes, but all have failed to bring the owners of cattle to our side. The only way to cause the members of the profession to be called upon to aid the farmers would be for an Act of Parliament to protect us, *as the sister profession is protected*, nothing short of that will answer here. So long as the thousands of amateur doctors are permitted to prescribe for the lower animals, so long will things go on as they now go. It is all very well for the editor of the *Irish Sportsman* and the Viceroy to advocate an Irish veterinary college, but I am free to confess they know little, *practically*, of the wants of the people. There are men in Ireland *able* and *willing* to take charge of cattle when suffering from disease, but my experience teaches me that only a few owners avail themselves of our aid.

What would the human surgeons do if amateurs were allowed to practise the profession as they did prior to the year 1815?

And it may be asked, how are we to progress so long as amateurs go on in their present mode of quackery? I repeat, that so long as we are left unprotected by an Act of Parliament, it would be useless to establish an Irish veterinary college. As to the extra expense incurred by students going to London or Scotland, it is nonsensical; the only extra is that of *transit*. If we have a college in Dublin, and licensed to grant diplomas, then it would be only fair to grant the same privileges to those schools so long established in Scotland; instead of which the school or society which used to grant a licence to practice, has recently given up that, and become affiliated to the R.C.V.S. You may take my word for it, that the employment of veterinary surgeons as cattle doctors is not by any means general. I am of opinion that the *owner* of live stock requires to be taught the benefits to be derived by the employment of qualified men.

You are at liberty to make any use of this you may deem proper.

Limerick, *January 17th.* Faithfully yours, R. H. DYER.

VETERINARY SURGEONS ON JURIES.

To the Editor of the VETERINARY JOURNAL.

SIR,—On the 29th of December last, I received a jury summons to serve as a petty juror at Stafford, on January 3rd. This, you will perceive, was only giving me five days' notice. The summons also stated that if I had any application to make, such application must be received at the sheriff's office, Stafford, at *least* four full days before the sessions. Now, supposing my business had taken me away from home for a day or two, I should not have been able to make any application on such short notice. However, fortunately I was at home, and wrote to the sub-sheriff, stating that medical men were exempt from serving on juries, and on the plea that I had neither partner or assistant, begged to be excused attending. The sub-sheriff was kind enough to take my name off the list of petty jurors, but placed it on that of the grand jury, which, in the event of my being called, would have seen me through my work as grand juryman in one day; whereas, if I had remained on the petty juror list and been called, probably the whole week would have seen me engaged in sessional business, instead of in that pertaining to my profession. The grand jury business seldom lasts more than one day, whereas that of the petty jury, or special jury, may and generally does occupy the best part of a week. Now, sir, this may be all very fair when a veterinary surgeon has a partner or assistant, but when a man has to depend upon himself alone to work and carry on his practice, and retain his clients and patients, I think, to say the least, that it is very hard upon him. In my case, as it turned out, I cannot complain, and only write this in the interest of the profession; for although my name was called on the grand jury list, I was not one of the twenty-four selected to serve as jurors. But the best part of the day was taken from me, for I had to leave my house at nine a.m. and could not return to it and my work until 3.35 p.m.

Cannot something be done to rectify this, and put us on a footing with our sister profession? I am, sir,

Yours faithfully,

Burton-on-Trent, *January 7th*, 1881. ROBERT MORETON.

[The liability of veterinary surgeons to serve as jurymen is certainly a grievance, and one which should be removed. At least one unsuccessful attempt has been made, but after the Penal Act has been obtained, another might be ventured upon.]

VETERINARY PUPILAGE AND MR. JAMES P. S. WALKER.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—Until I read Mr. J. P. S. Walker's letter in your last issue, I never intended occupying your pages with any ideas I might have as to this subject. Mr. Walker's extraordinary production, however, cannot be passed by without notice and *contradiction.*

Mr. Walker says the subject "ought to be discussed upon its own merits, and not in any party spirit"; but after this very good precept, he sets us the extremely bad example of occupying your space with a long eulogium on his own rare merits, and a rather personal diatribe about Mr. Fearnley.

Being myself a class-fellow of both Mr. Fearnley and Mr. J. P. S. Walker, I am enabled to speak with rather more impartiality than Mr. Walker as to their respective merits as veterinary students; and I must candidly confess that it always struck me that the superiority, *in every way*, lay quite in Mr. Fearnley's hands. This will, perhaps, be brought out before I finish.

Mr. Walker is incorrect and very unfair in saying that Mr. Fearnley "always bore a defiant air"; and I am sure the generality of my old class-fellows will bear me out in saying that Mr. Fearnley was quite the reverse, and always conducted himself in a kindly and gentlemanly way, and was always ready under all circumstances to talk to any of his fellow-students upon any subject; and no one will deny his genuine enthusiasm about all professional matters—either practical or theoretical.

Neither I nor any one else ever sought to deny that Mr. J. P. S. Walker took three medals away with him; but it certainly is something new, and very unlikely, to be told that he "was too modest to enter for the practical"! How, in the name of wonder, could he have gone in for the "practical," when he says himself that he had not "the remotest idea of what practice was"? Modesty, indeed! *Where ignorance is bliss, 'tis folly to be wise.*

Mr. J. P. S. Walker will no doubt by this time have forgotten how he and several others got all the *third* year's students debarred from competing for those same medals. Quite an unjust restriction in so far as regards myself, Mr. A. Stewart, of Rothiemay, and one or two others, who were merely completing our *second period* of six months! They could not, however, debar us from Honours in the oral examination; and Mr. J. P. S. Walker will, perhaps, call to mind where *some* of us stood; but as for himself, he was simply nowhere!

I was a pupil myself, and the son of an M.R.C.V.S., and I can assure Mr. Walker that to me his assertion—"that the details of conducting an operation is a secondary matter"—is a perfect absurdity; and as for "blacksmith's ideas and mode of practice," such foreign matters never entered my head during either my pupilage or college life. Experience teaches fools, however, and I suppose Mr. Walker's want of a pupilage must have left him plenty of time to colleague with blacksmiths and similar empirics; and we all know how lightly such gentry hold "the details of conducting an operation."

With the amount of practice seen under the auspices of the late Professor Dick, we who had the honour of sitting under him are perfectly conversant, and we must all allow that it was at once extensive and varied; but it seems Mr. James P. S. Walker found it too meagre for his large capacities, and says he ought to have seen a "vast deal more"! If Mr. Walker really felt this to be true *at the time*, why didn't he enter himself as a pupil somewhere else, where he would have seen a "vast deal more" practice?

This is just what I and every true friend of our profession aim at. So I conclude by wishing the "Pupilage Clause" every success; and am, dear sir,

faithfully yours,

A. E. MACGILLIVRAY, V.S.

Banff, N.B.

THE EDUCATION OF THE VETERINARY STUDENT.

To the Editor of the VETERINARY JOURNAL.

SIR,—I had not intended to occupy more space in your Journal about this question than that occupied by the communication you so kindly inserted in your December number, but the laboured and elaborate article of Mr. Greaves' in your last has caused me to alter my resolution,

Mr. Greaves, according to his own showing, seems to have exercised a large amount of self-restraint in perusing the numerous letters, etc., on this subject; but this very laudable control appears to have been entirely cast aside after his self-imposed task was completed, and passion to have taken its place—at least, I assume such is the case from the tone of his arguments, which are so one-sided in their character as to lead to the further supposition that his mind is not capable of entertaining any but the most ultra opinions on any subject which he chooses to consider. Passion, too, has prevented him from acknowledging my explanation of the remarks attributed to me on several previous occasions.

I have not time, neither do I consider it necessary to follow Mr. Greaves through all his arguments; it is enough for me to say that his communication bristles with inconsistencies and inaccuracies, and is replete with illogical conclusions—a charge which I could, were it requisite, substantiate by facts innumerable. Mr. Greaves has, on other occasions, and when it has suited him, quoted the Clyde Street School; I fail to see what right he has to do so, seeing that he has never taken any measures to acquaint himself with the course of instruction pursued there. On the contrary, his influence has been exerted to its detriment; perhaps Clyde Street is too classical for Mr. Greaves.

In the argument on the practical side of education, one vein runs prominently through the great majority, and that is, that the young practitioner should be the equal in professional capabilities of his elders. No allowance is made, and one or two unfortunate failures are taken as tests from which to preach violent harangues against the so-called "college-bred" student. I have never advocated a purely scientific education; I did not actively oppose Mr. Fleming's motion, because I thought it moderate in its aim. I did not support it, because I thought, and do so now, that it was illegal. The course of instruction laid down by me in my last communication was the result of a long and varied experience, such as Mr. Greaves, with all his *great* experience cannot lay claim to; and I may venture to point out to him, and others, that if young practitioners make mistakes, old ones are not—judging from the almost daily facts brought under my notice, and the revelations of our law-courts—infallible; and some of the opinions expressed by very practical men are, to say the least of it, remarkable.

Mr. Fleming has quoted, in support of the prolonged apprenticeship system, *one* letter which appeared in the *Lancet*.* Numerous letters in the medical journals, of an entirely opposite tendency, might be placed in apposition, and it is a notable fact that in Edinburgh not one word is ever heard in support of medical apprenticeship, notwithstanding that one medical corporation offers very substantial advantages, which I am credibly informed have not been embraced for a considerable period, to apprentice students; and it may

* Many letters and articles in the *Lancet* might have been quoted in favour of apprenticeship and pupilage. Not a word, to our knowledge, has been said against a medical student acquiring a practical knowledge of the details of his profession; the only difference in opinion is as to how this is to be obtained—one party going in for the apprenticeship or pupilage system, another for a longer period of study at the medical schools, and another for dispensing with some of the subjects now taught there, making them part of those in the matriculation examination.—ED. *V. J.*

be also noted that in the *Lancet* of the 8th inst. there is a leading article advocating a scheme of education almost identical with that I have myself recommended.

I cannot dismiss this subject without lamenting the absence of professional loyalty—as shown by their anxiety to lay bare our shortcomings in lay publications—in some of our leading men.

I am, yours truly,

Edinburgh, *January 20th.* T. WALLEY.

THE VALUE OF APPRENTICESHIP.

To the Editor of the VETERINARY JOURNAL.

SIR,—In last month's Journal we find expressed the views of the chief—I had almost said sole—authors of the compulsory pupilage. These are contained in an editorial and in Mr. Greaves' letter.

It has been well said, that "criticism should always be in the spirit of the matter calling it forth." In my contributions I have so far endeavoured to conduct the controversy in a purely logical manner. The other side of the question has been well put by Messrs. Banham and Sheather. I can only express surprise that your editorial should have departed from this spirit, and have introduced rhetoric instead of logic, assertion and sneer instead of argument. I really do not think "carping criticisms and incomprehensible effusions from irresponsible writers" are nicely-chosen words to apply to a man because he happens to put in print some ideas not just the same as your own. You say—"The step which has been taken by the profession is one which has received long and most careful consideration by those who are most responsible [the Council, I suppose] and most competent [who are these?] to recommend it. It has received the sanction of not only these, but of every unbiassed well-wisher to professional reputation and progress." This is a little too much—it is an insult to those who differ, and utterly ignores the opinion of the whole professorial staff. You go on to say—"It will also be hailed by the public as a proof that the Royal College is determined that its diploma shall be a reliable testimony to the capability of its possessor." Does this mean that a twelve-months' pupilage is about to supply all the dreadful deficiencies we have been told of, and to make all young graduates a good deal cleverer than most of the old ones are now? or does it mean that the editor fancies the Royal College previous to his presidentship was indifferent to the capabilities of its members? Surely either supposition is equally erroneous.

As to Mr. Greaves' letter, I can only thank him for having supplied, in his egotistical chapter of autobiography, about the strongest argument against apprenticeship before going to college I have ever read. Let me quote a sentence from his letter:—"At the end of my apprenticeship I could diagnose disease or lameness as correctly and with as much certainty as I can now [*a little ambiguous, but probably true*]. I could diagnose disease and recognise the varied changes, and treat it successfully—I seemed to have it at my finger-ends, as if it was intuitive." There are not many practitioners of twenty years' standing who would even now care to claim such proficiency. I fancy if Mr. Greaves, instead of saying, "I *could* do so-and-so," had written, "I *thought* I could do so-and-so," he would have been much nearer the mark. To me this wonderful apprentice is simply an illustrious example of that confidence begot of ignorance which our side consider the great evil of apprenticeship. With such perfection, why, in the world, go to college at all?

Now let us hear what was the effect of some scientific teaching upon this prodigy. He tells us—"When I returned from college I could not see my way in my case. I got confused, mystified, and blundered in my diagnosis and in my treatment. My master said truthfully that I had lost my manipulative dexterity. . . . . I was neither a more scientific nor a more successful practitioner than I was before." If such stuff as this has any value, it can only be, like the teetotal lecturer's drunken brother, as a frightful example to be avoided. The whole argument leads to but one logical conclusion, viz., that we should at once close all our colleges and insist upon about five years' apprenticeship, if we wish to make good men. A few more such autobiographical sketches, and the Council would at once erase their crude and hasty legislation. "The traducers," says Mr. Greaves, "of the apprenticeship-student have never openly or in a courageous manner brought forward their charge against the accused." Well, there is now no necessity—Mr. Greaves has stated it most lucidly.

This modest and logical letter concludes with the following sententious piece of advice :—"In the meantime, let us work on, knowing that the virtue lies in the struggle, not in the prize. Let every man be occupied, and occupied in the highest employment of which he is capable, and die with the consciousness of having done his duty." What care for our lives and deaths! Let me offer our mentor a hint. When next posing as one of the saviours of the profession, let him quote from "Coriolanus" (slightly altering Shakespeare) :—

> "I do love
> My profession's good with a respect more tender,
> More holy and profound than mine own life."

Yours obediently,
WM. HUNTING, F.R.C.V.S.

[We do not gainsay a single word of the editorial Mr. Hunting criticises. We confess we do not understand him, nor yet the one or two odd men, like himself, who have the temerity to assert that all the knowledge a veterinary surgeon requires to make him competent to embark in practice can be acquired at College ; nor yet that some acquaintance with the every-day details of a professional life are unnecessary. Mr. Hunting's arguments—if we dare venture to give them this designation—appeared to be summed up in the following sentence from his letter which appeared in the Journal for October last (p. 294) :—"If men choose to enter the veterinary profession with no knowledge of animals, why should we prevent them? In all trades and professions men utterly wanting in any special aptitude are to be found—they find their own level." In our profession we have, perhaps, had too many men utterly wanting in special aptitude, and it has been in the painful process of finding their own level that they dragged their science—or rather, its reputation—down with them. It is just because those who best know the position and requirements of veterinary medicine in this country are determined that men with no knowledge of animals shall not disgrace the profession by being allowed to enter it, that the *pupilage* (not *apprenticeship*) law has been enacted. No one has ever asserted that a *minimum* pupilage of twelve months would make a youth as competent a practitioner as, say, Mr. Hunting ; but it will go some way, if properly spent, in rectifying the evils of that kind of ignorance of which our correspondent appears to constitute himself the champion. The Members of Council, as a body, should understand our requirements, at least as well as Mr. Hunting, and by a large majority they have decided in favour of pupilage. Mr. Hunting may abuse practitioners as much as he has a mind to—he is one of them, and may know something of their ignorance, indifference, and other shortcomings ; but he should also

remember that veterinary professors are, after all, only practitioners who give lectures, but who very rarely have time or opportunity to teach everything that a student ought to know. We fancy Mr. Hunting, in his innermost consciousness, believes that the veterinary graduate ought to understand something of the practical part of his vocation, and he must also be as well aware as any one that a miserable failure awaits the unfortunate youth who has to acquire the veriest rudiments of this portion, "by careful observation, by the test of experience," but entirely at the cost of his clients.

We do not know who constituted Mr. Hunting the mouthpiece of the whole professorial staff, but we certainly do not ignore the opinion of the only member of that staff who has ventured to touch the subject. The profession, as a body, is quite as competent, and certainly quite as unbiassed in the matter, as the teaching section, which it concerns no more than the non-professorial portion; and those who assert that a practical acquaintance, to some extent at least, with the ordinary details of a veterinary surgeon's business, is unnecessary to the graduate who has just embarked in practice, must either have a selfish interest in admitting any and everybody into the profession, or entertain a strange notion of professional utility, morality, and respect. Such men, we feel assured, are in a very small and unenviable minority in the profession.]

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from "Vis Unita Fortior"; H. T. Batt, London; R. W. Burke, Edinburgh; M. F. Healy, A.V.D., Ipswich; H. Leeney, Brighton; J. W. Hill, Wolverhampton; J. Ritchie, Kincaldrum; R. Moreton, Burton-on-Trent; J. Dunlop, Downpatrick; R. Paterson, Downham; M. Hedley, Dublin; "Spectator"; S. Locke, Manchester; J. McFadyean, Edinburgh; W. F. Garside, Berlin; C. Stephenson, Newcastle-on-Tyne; A. W. Hill, London; A. E. Macgillivray, Banff; "Another Sufferer"; W. Hunting, London; T. Walley, Edinburgh; R. H. Dyer, Limerick; E. Stanley, Warwick.

BOOKS AND PAMPHLETS: *N. Lanzillotti Buonsanti*, Schizzo Storica della R. Scuola Superiore di Med. Veterinaria di Milano; *W. H. Clarke*, Horses' Teeth; *L. Brusasco*, Sulla Necessita dell'Ordinamento degli Studi Veterinari: Contribuzione allo Studio della Spontaneità e Curabilita del Moccio o Morva: Giurisprudenza Veterinaria: Congresso Internazionale d' Igiene d' Torino; *E. Dele*, Essai de Regeneration du Virus Vaccine; Nouveau Dictionnaire Pratique, etc., Vétérinaires; *A. E. Queripel*, Good and Bad Stable Management.

JOURNALS, ETC.: *Deutsche Zeitschrift für Thiermedicin und Vergleichende Pathologie; Recueil de Méd. Vétérinaire; Annales de Méd. Vétérinaire de Bruxelles; Archives Vétérinaire; L'Echo Vétérinaire; La Clinica Veterinaria; Repertorium der Heilkunde; Der Thierarzte; Lancet; Irish Farmer's Gazette; British Medical Journal; Archiv für Wissenschaftliche und Practische Thierheilkunde; Field; Farmer; Live Stock Journal; Mark Lane Express; Agricultural Gazette; Revue Vétérinaire; Journal de Méd. Vétérinaire; American Live Stock Journal.*

NEWSPAPERS: *Berwick Advertiser; Irish Times; Freeman's Journal; Scotsman; Leeds Mercury; Newcastle Advertiser; Morning Post; Truth; Cape Times; Irish Sportsman.*